THE Soybean Digest

Official Publication

OF

THE AMERICAN SOYBEAN ASSOCIATION

VOLUME 6 • NUMBER 7 MAY • 1946

An Imitation Is Not the Original

"Doc" MacGee says:

Imitation may be "the sincerest form of flattery," but in the case of Skellysolve, imitation does not necessarily mean comparable quality. The fact that there are today other solvents claimed to be "as good as" or "better than" Skellysolve certainly does not mean they will serve you any better, or even as well.

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You can rely on Skelly, as numerous users in the oil and fat, rubber, ink, and other industries have for so many years. Even through the war years, Skellysolve shipments made a good record.

Yes, you can rely on Skellysolve quality, service, and dependability. It just doesn't pay to gamble on "imitations!"

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SKELLY BLDG., KANSAS CITY, MISSOURI

THE *Soybean Digest*

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GEO. M. STRAYER, Editor KENT PELLETT, Managing Editor

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The American Soybean Association

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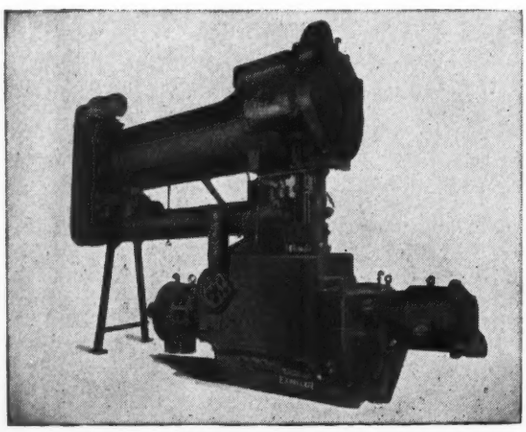
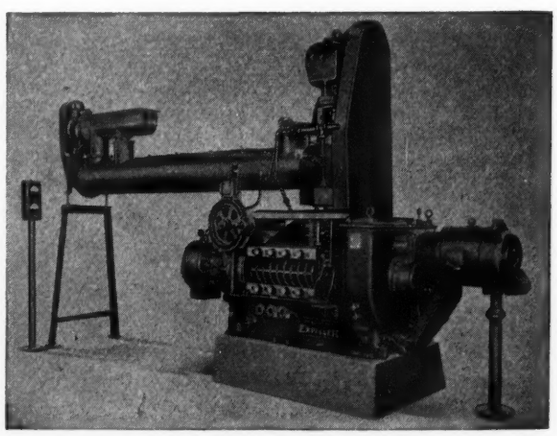


DUPLEX SUPER DUO OIL EXPELLER



DUO EXPELLER WITH CONDITIONER

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EDITOR'S DESK

Taking the Long View As everyone knows, the imperative need is for huge soybean production again this year. It is still too early to know whether acreage will slip as far or further than indicated by the March forecast of the crop reporting board.

Taking the longer view, past the present world food crisis, the debate still goes on concerning the probable future size of the soybean acreage.

Sample surveys over much of the soybean belt indicate that in Illinois and Iowa, and some other sections, farmers plan to cut soybean acreage in order to reduce the area in cultivated crops, while maintaining or even increasing their corn acreage.

Whether this reduction will occur and how permanent it will be remains to be seen. For the long pull, the logic of the nation's food and feed needs calls for an INCREASE rather than a decrease in protein crops such as soybeans.

Wartime experience in feeding of both animals and humans has revealed the fact that we as a nation have always been short on protein.

An example is the report of the chief of the Bureau of Animal Industry for 1945, which points out that recent experiments have served to emphasize the requirements of hog producers for protein feeds. "The potential needs of the swine industry for protein feeds are estimated at 4,760,000 tons, a figure greatly in excess of present national usage," states the report. What is true of hogs is true of other classes of livestock.

It is common observation that soybeans, among vegetable protein crops produced in this country, are in best position to maintain or increase acreage to meet the nation's protein needs.

Ken Maltas of A. E. Staley Mfg. Co., quotes USDA figures to the effect that from 13 to 14 million tons of protein concentrates are needed annually to feed American livestock as it should be fed, instead of the less than 9 million tons that has been produced to date (see page 17). He points out that it would take a 400 million bushel soybean crop, twice our largest annual production to date, to meet this protein need.

Commenting on the plans of Illinois farmers to reduce soybean acreage, E. L. Sauer of the University of Illinois states: "It is my opinion that in the long run we will be ahead economically and in conservation if we learn to grow soybeans without soil losses, maintain our bean acreage, and reduce corn acreage. We have now, and always have had, a shortage of protein feeds, whereas carbohydrate feeds have been more abundant."

Of course there are problems in growing soybeans. Fitting them into established rotations, weeds and maintaining soil fertility are just three.

But given conditions that make for a favorable price relationship with other crops, these problems will be solved and a large permanent acreage of soybeans maintained in the United States.

Use Meal for Food or Fags? The ways of bureaucracy and bureaucrats are unpredictable and difficult to understand. In too many cases they are influenced most by the last man who talks to them, whether or not that man's case was most meritorious.

Midwesterners, living where the major portion of the nation's foodstuffs are produced, wonder just who talked with who to promulgate the allocation of 40,000 tons of protein meal for use as fertilizer in the tobacco industry, when the food-producing territories of the Midwest are going without protein feeds and without fertilizers. USDA officials, in granting the allocation, "justified its allocation of this scarce commodity on grounds that no satisfactory substitute was available if protein supplies were denied to the tobacco producers." The quotation is from the news story.

To make it effective, the allocation was not merely a "hunting license", but, according to the USDA officials the tobacco industry is eligible to receive protein meal from the set-aside pool under WFO 9!!

We are asking USDA officials for an explanation of the order, as we still prefer to see our soybean oil meal used for food in preference to fags.

Body Blow at Bean Acreage Last minute price ceiling announcements made as this issue goes to press have thrown the grain trade into chaos. Soybeans were not included in the commodities allowed ceiling price increases. If, as we are told, the greatest food need through the coming months is going to be for edible oils, the current situation is sheer folly.

Not until we pay for them will soybeans be grown in desired quantities. Soybeans at $2.10 per bushel do not begin to compare with corn at $1.45. Soybean producers know that all too well. Planting is being done now. Any ceiling price increases on soybeans should be announced now—not after the bean acreage is planted.

Officers and directors of the American Soybean Association are endeavoring to secure a comparable ceiling price increase for soybean growers. It is hoped that by the time this issue reaches you the efforts will have been successful. A minimum of at least $2.60 per bushel for No. 2 yellow beans is comparable with *today's* ceiling price on corn.

Snowed Under The Congress of the United States has become so involved in the world food crisis, the fight on OPA, the coal strike, that incidental but important matters such as HR 579—the Rivers Bill—which will affect soybean oil markets through the coming years have received no attention. H.R. 579 is still in the hands of the agricultural committee. The soybean industry is watching its progress—or lack of progress—carefully.

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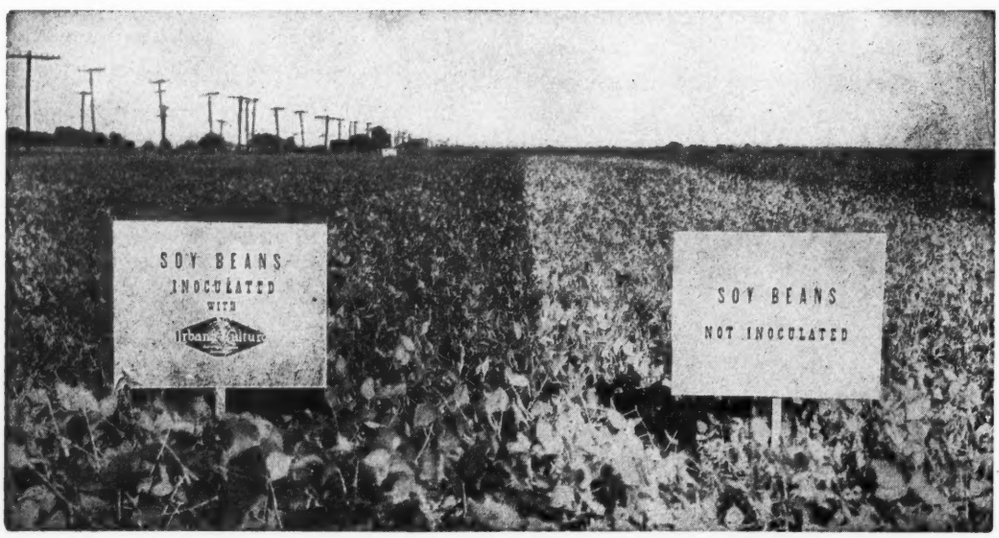

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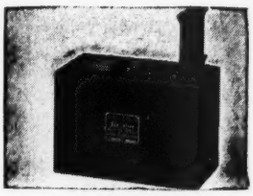

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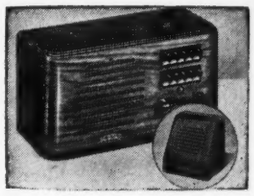

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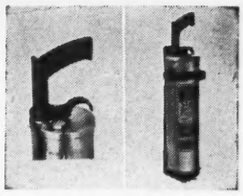
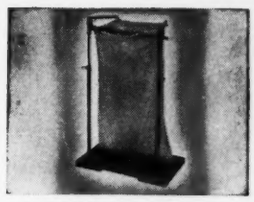
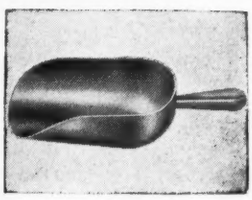
Inter-Office Communication System. Saves time; speeds production. You can talk to one or up to 15 persons while they remain at their work. Personnel can contact you. Start with one sub-station, add others as needed. It's today's most complete, most practical inter-communication system.



"PISTOL-GRIP"
Shoots about thirty feet. Turn handle a halfturn either way, pump a few strokes and pull the trigger. Liquid contains no water, alkali, or acid, and will not freeze. A non-conductor of electricity, and will not harm motors or machinery. Available in 1 quart and 1½ quart sizes.

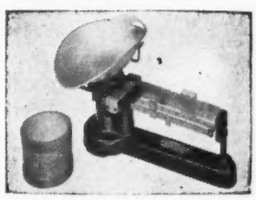


BAG HOLDER
No. 114. Universal, has malleable iron jaws, practically unbreakable as it is constructed mainly of soft steel. Adjusts to any height or width of sack, released by a simple movement of the spring controlling the arm. Along front of frame is placed a bar for holding a shovel or basket to grade.

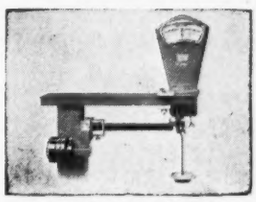


SCOOPS
Die cast scoops from alloy aluminum, produces highest tensile strength, uniformity of size, no rough spots. Acid resisting and will not corrode. Best features of all styles are incorporated in these scoops. No. 0—8½ x ¾", No. 1—11½ x 3¾", No. 2—12 x 3⅜", No. 3—14¾ x 4¼".

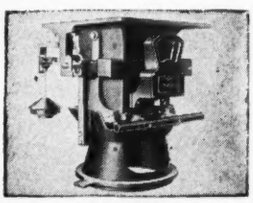
FABRIC CEMENT
No. 403—Tehr-Greeze Fabric Cement, waterproof adhesive for repairing sacks and burlap bags. Also used on cloth, fabric, leather goods, etc. Spread it thinly with knife, wood or metal paddle, press together with your hand. Sizes—6 oz., 16 oz., 32 oz., ½ gal., 1 gal., 5 gal., drum.



4—In—1 SCALE
Used for weighing samples, for moisture tests, for determining test weights per bushel, dockages, weighing mail. Capacity 610 grams, sensitivity rated 1/10 gram divisions, back beam 0 to 500 gram x 25 gram divisions. Also 0 to 100% x 1%, 0 to 17½ x ½ oz., 0 to 70 lbs. x 1 lb. div.



SCALE INDICATOR
No. 189—Over and under platform scale indicator. Pointer regulated by air-controlled dash-pot instantly shows beam movement magnified as much as 9½ times. Saves time, avoids loss through overweight. Smallest weight error easily seen. Simple, trouble-free mechanism.



O.K. BAGGING SCALE
Four to six 100 lb. bags filled and weighed per minute. Combines filling and weighing into one semi-automatic operation. Fill burlap, cloth or paper sacks with flour, feed, grain, peanuts, shelled corn, field corn, soy bean meal, cottonseed, etc. Easily attached, at comfortable working height.

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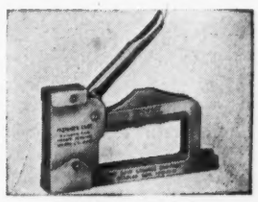

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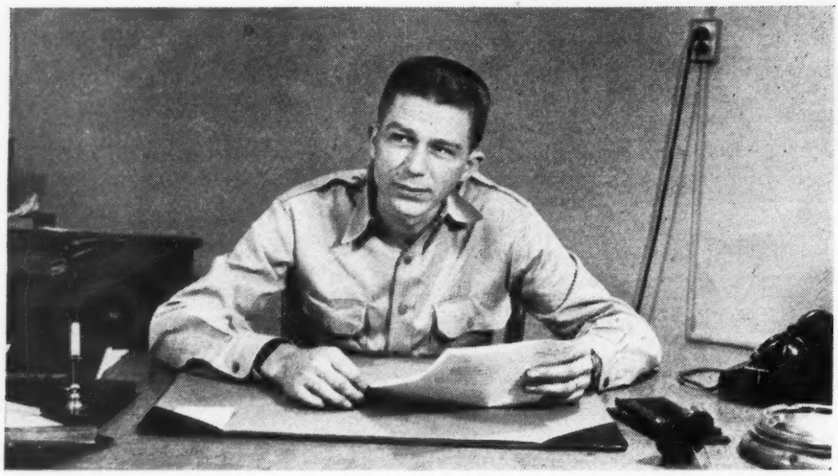


DR. AARON W. WELCH

Soybean Research at Iowa State

A. P. PARSONS

Assistant Extension Editor, Iowa State College

Believing that forewarned is forearmed the Iowa Agricultural Experiment Station in cooperation with the division of forage crops of the Bureau of Plant Industry, Soils and Agricultural Engineering, Department of Agriculture, is moving into an intensive study of soybean root and foliage diseases.

Expanding a project started in 1944 is the full-time job of Dr. Aaron W. Welch, research assistant professor in the Experiment Station and agent for the Bureau of Plant Industry.

Dr. Welch was graduated from the University of Maryland and received his master's and doctor's degrees from Iowa State College. In 1942 he entered the army [illegible] training command. He was discharged in December, 1945, with the rank of captain.

Exploring the virtually untouched field of soybean diseases exposed a wide area for operations. The work at the Iowa Station is part of a program being coordinated at the Northern Regional Soybean Research Laboratory at Urbana, Ill., and other Midwestern experiment stations.

Soybeans, in their short period of intensive culture in the United States, have not been affected by diseases which have caused serious, widespread losses.

A definite potential of disease infection does exist, however. Research workers are constantly aware that the virulence of diseases may increase, that new varieties may show susceptibility not present in the established strains and that continued and increasing intensive cultivation may build the incidence of disease.

One of Dr. Welch's primary activities will be to conduct a statewide survey of disease conditions. He plans to observe growing beans in all parts of the state to determine the occurrence of disease. Along with identification he will estimate the loss that is occurring and the distribution of diseases observed.

Paralleling this work are studies already in progress, in the laboratory and greenhouses of the Station, to isolate individual disease organisms and to study their affect on soybean plants.

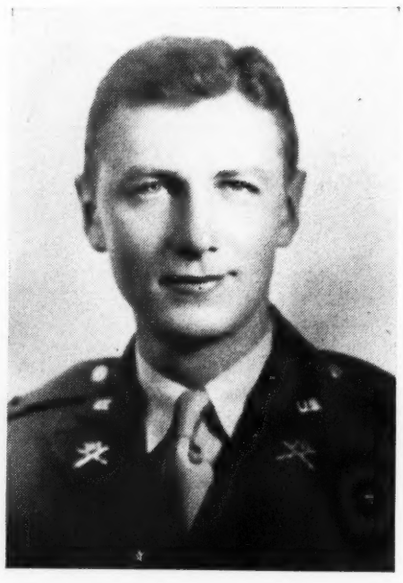
Also being studied this year is the effect of mercury dusts, when applied to soybean seed, on the nitrogen fixing bacteria with which seed beans are commonly inoculated.

The return of Dr. Martin G. Weiss to the staff of the farm crops sub-section of the Agricultural Experiment Station is expected to give impetus to the soybean breeding program.

Weiss returned to the college staff in

(Continued on page 31)

DR. MARTIN G. WEISS



CASE HISTORY No. 5

One in a series of factual experiences of a group of American manufacturers with Multiwall Paper Bags.

COST COMPARISON

	100 lb. Burlap Bags	100 lb. Paper Bags
Bag cost per M.....	$296.20	$117.85
Bag cost per 100 lbs....	.296	.118
Labor cost per 100 lbs...	.125	.050
Total bag and labor cost per 100 lbs.....	.421	.168
Savings per 100 lbs. paper over fabric....		.253
Savings per ton, paper over fabric.....		5.06

DETAILS OF LABOR COSTS

		Production per hour	Cost per 100 lbs.
Burlap Bags (with paper liners)			
1—Man filling at .82 per hour	$.82		
1—Man weighing at .82 per hour	.82		
1—Man sewing at .89 per hour	.89		
3—Men handling at .82 per hour	2.46		
6—Men in all	$4.99	4000 lbs.	.125
Multiwall Paper Valve Bags			
1—Man filling and check-weighing at	.82		
3—Men handling at .82 per hour	2.46		
4—Men in all	$3.28	6500 lbs.	.050

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CHEMICALS	FOOD
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HOW A ST. REGIS PACKAGING SYSTEM SAVES MONEY

for a manufacturer having limited* production

This fifth case history in a series of MULTIWALL success stories, relates the savings effected by a cocoa manufacturing concern through the introduction of St. Regis Multiwall Paper Valve Bags and Machine Packaging. Prior to the installation of the St. Regis Packaging System this company used various types of packages . . . barrels, fibre drums, and open-mouth burlap bags with paper liners. Since their initial trial, about one year ago, St. Regis Multiwall Paper Valve Bags have been found to be the most efficient and economical container for the purposes of this company.

REDUCED LABOR COSTS: Prior to adopting the St. Regis Packaging System this company was using one man to fill the bags, one to weigh them, and one to sew them closed. Now, one operator can fill and check-weigh 25 more 100-lb. bags per hour than the former three man crew . . . a labor saving of 66% in filling and weighing.

INCREASED PRODUCTION: The original three man filling crew and a three man handling crew were able to handle only 4000-lbs. of cocoa per hour. Since the installation of the St. Regis Packaging System one man is able to supply the three-man handling crew with 6500-lbs. of cocoa for shipment to customers . . . an increase in production of 62½% over the old system.

AN EXAMPLE IN PACKAGING ARITHMETIC

QUESTION:

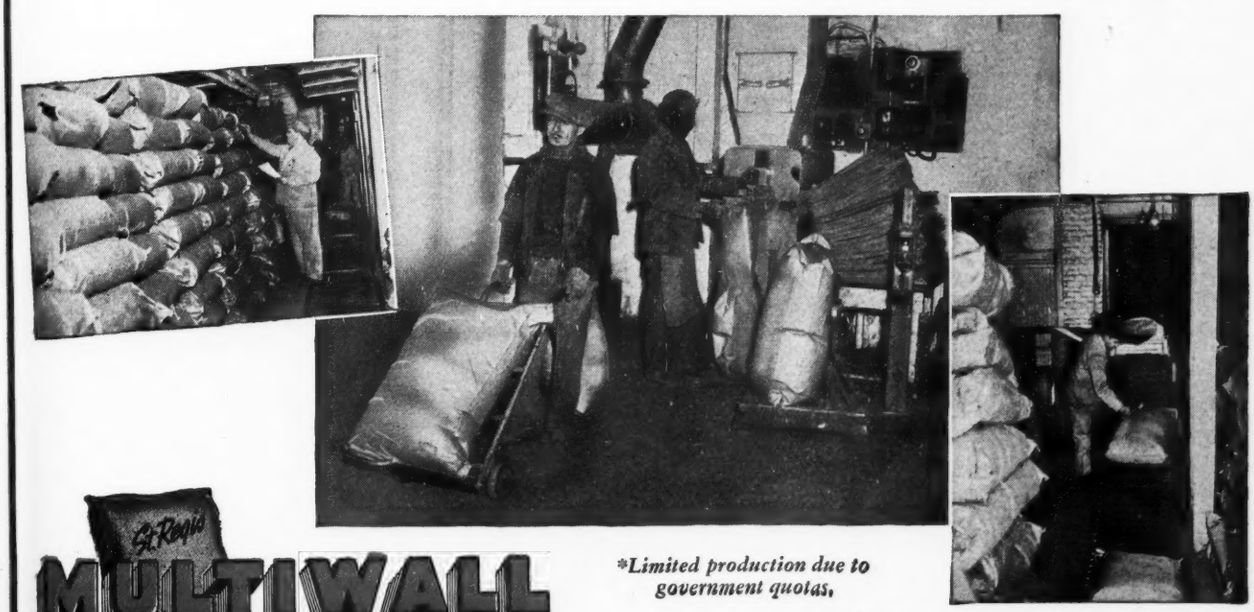
If it took three men one hour to fill, weigh and close 4000-lbs. of cocoa . . . how can one man fill, check-weigh and close 6500-lbs. in an hour?

ANSWER:

By changing over to a St. Regis Packaging System using a St. Regis Valve Bag Packer to fill Multiwall Paper Valve Bags.

REDUCED CONTAINER COSTS: In addition to the product protection afforded by multiple walls of kraft paper and the greater ease of handling Multiwalls, the customer discovered a saving of over 55% in bag cost by using Multiwall Paper Bags instead of Burlap Bags with paper liners.

The figures in this example prove conclusively that St. Regis Packaging Systems are just as applicable to small packaging operations as they are to operations that require batteries of high-speed packers. Call in a St. Regis field representative to advise you on the type packer that will best suit your needs.



MULTIWALL

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COMPANY _____

ADDRESS _____

Principles of Freight
TRANSIT

By C. L. BRUNO
General Traffic Manager
Spencer Kellogg & Sons, Inc.
Buffalo, N. Y.

THE FUNDAMENTAL purpose of transit is to permit the breaking up of inbound carload shipments for grading, milling, mixing, blending, fabricating, manufacturing, etc., and converting the original or raw material into semi- or completely finished products with reshipment of the finished product to some destination beyond the transit point.

Shipments are stopped or interrupted in their through movement from the source of raw material to the markets of consumption to permit the traffic to go temporarily but completely out of the channel of transportation and into that of commerce for just such industrial transformation as described in the preceding paragraph. The savings accruing thereby result from the application of the freight rate from origin to final destination as contrasted with the local rate on the raw material plus the local rate on the finished product where transit is not available.

It is interesting historically to know that the first transit arrangement of which there is a record was established at Nashville, Tenn., in 1870, in order to meet competition of boats and barges operating on the Cumberland River. At that time the boat lines on the Cumberland River were bringing grain and flour from Cairo, Paducah, St. Louis, and other western river points to Nashville for reforwarding by the rail lines to points south of Nashville. The total rate by barge from Cairo, Paducah, etc., plus rail beyond Nashville was lower than the combination of the local rail rates to and from Nashville.

Necessity compelled the railroads, in order to secure their share of tonnage, to make rates on such business somewhat less than the combination of local rail rates to and from Nashville. This led to the practice of protecting the rate from point of origin of the raw material to final destination of the finished product with the privilege of stopping in transit at Nashville.

This same general principle is in effect today in the majority of instances where transit is granted. Transit gives the effect of treating two separate and distinct movements (the inbound raw material to the transit point and the finished product from the transit point) as though there were but a single movement with no stopping in transit whatsoever.

In other words, on soybeans milled at Decatur we find that the transit privilege gives up the benefit of the rate on soybean oil meal from point of origin of the soybeans to final destination of the oil meal, even though there are two distinct movements; that is, (1) soybeans to Decatur and (2) soybean oil meal from Decatur.

BASIS OF CHARGES

For the privilege of stopping in transit a charge ranging from zero to 7 1-2 cents per hundred or higher is assessed dependent upon the competitive nature of the product and commensurate with the ability of industry to pay. As an example, the transit charge on wheat milled into flour is either zero or 1-2 cent because the flour industry is highly competitive and the products are sold on a very low margin of profit.

Transit is established today more for the purpose of equalizing milling points than for meeting competition by water (as in the original instance at Nashville) or by truck, though the latter are frequently considered. Through transit, any operator on the normal rate of movement is given the same identical rate advantage, with the freight charges accruing at every transit point being equivalent, provided the origin and destination points have common derivation.

Without the benefit of transit a concentration of manufacturing would result either at source of raw material or at the marketing areas of the finished products, dependent upon the freight rate structure favoring either location.

Transit is definitely a characteristic of the grain trade because of the highly competitive nature of the industry and because the raw materials and finished products move on identically the same level of rates. In the case of wheat, complete equalization of milling points is obtained under transit because all products of wheat, such as flour, middlings, etc., are entitled to transit. By contrast, in the milling of soybeans where the oil produced is not subject to transit, equalization is not absolute.

ARE SOME VARIATIONS

There are many variations from this general concept which will be gone into very briefly later on, but the net result in each case is essentially the same.

To illustrate the benefits obtained under transit, a comparison will be given of the combination local in and out rates to and from the transit point versus the single through rate from point of origin of the raw material to final destination of the finished product.

First, a mileage scale has been constructed which is representative of a scale applicable in certain territories:

MILES	In Cents per 100 Lbs.
10	12
25	14
50	16
100	22
150	26
200	29
300	34
400	38
500	42
750	50
1000	56

Assume that the raw material originates at point A, with the transit point B 200 miles distant from A and, the destination C for the finished product 200 miles beyond the transit point B.

Under normal circumstances without the benefit of transit, the rate paid on the raw material for the distance of 200 miles would be 29 cents per 100 pounds as indicated in the above scale. On the finished product from transit point to final destination we would again pay 29 cents for a distance of 200 miles, making a total through rate of 58 cents.

However, under transit we are given the benefit of the rate from point of origin A to final destination C, involving a total mileage of 400 miles. Thus, the total rate from A to C with transit at point B would be 38 cents. Having paid in 29 cents, the transit balance from B to C would be but 9 cents. Comparing this transit balance of 9 cents with the local rate from B to C of 29 cents, we have a net saving of 20 cents per 100 pounds.

All of the above is predicated upon the fact that the transit point B is directly intermediate between origin A and final destination C.

Now, assume that points A, B and C form a triangle, with the distance from

Administrative offices of Spencer Kellogg & Sons, Inc., Buffalo, N. Y.

A to B 200 miles and from B to C 200 miles, as in the former instance. However, the distance from A to C is but 300 miles. Thus, the total rate under transit would be but 34 cents as contrasted with 38 cents when B is directly intermediate between A and C.

Finally, the Utopia is reached when the three sides of the triangle are equal; that is, the distance from A to B and from B to C is still 200 miles each, respectively, and the distance from A to C is likewise only 200 miles. Thus, our total rate under transit from A to C is but 29 cents, or the same as the rate paid on the inbound raw material. Leaving a zero transit balance.

From the above, it is apparent that in the application of transit the greater the circuity via the transit point from origin to destination, the cheaper the rate paid on the total over-all transaction. Thus, every effort to secure added transit privileges is directly toward obtaining a maximum circuity via the transit point.

Transit in its simplest form is no more complicated than the above recital of facts. There are many complexities, however, which add to the transit operators' problems, several of which are enumerated as follows:

1. Many rates are not constructed on a mileage basis.
2. The rate bases for the raw material and finished product are unrelated.
3. The in- and outbound carriers are not one and the same lines.
4. Routes are not applicable via the transit point.
5. Transit is not applied in each and every instance—that is, inbound transit billing is not always available.
6. The buying basis for the raw material or the selling basis for the finished product may dictate the policy to pursue.

To apply transit intelligently, one must be thoroughly familiar with the rate structure and, further, must have a knowledge of the methods of buying the raw material and selling the finished product.

Transit is, today, a commercial expedient designed to assist in the merchandising of manufactured products in the most economical manner. Transit has the tendency of fostering decentralization of industry and of enabling manufacturers to tap sources of raw material and markets for finished products which are otherwise unobtainable.

● *Freight transit rates affect soybean producers by allowing economies in merchandising the end products, encouraging decentralization of the industry, and permitting higher soybean prices based on competitive oil and meal markets.*

BOOKS

USDA, MANAGER OF AMERICAN AGRICULTURE, by Ferdie Deering, University of Oklahoma Press, Norman. 213 pages. Price $2.50.

The editor of *Farmer-Stockman* makes a strong attempt at appraising one of the world's largest governmental spending departments.

In 10 years (1935-1944) the Department of Agriculture appropriations totaled 10.5 billion dollars, or more than the value of all farm buildings in the U. S., says Deering. A highly expensive program.

The problem of USDA is the problem in a nutshell of government in our times. How are we to obtain the vastly expanded services which we the people demand without paying more for our whistle than it is worth?

USDA has become so vast and so complicated that nobody can understand its organization or all its functions. "A situation that permits bureaus to be set up on the spur of the moment — combined, transferred, and abolished, and new ones set up in their places —with almost unlimited power is dangerous to democracy to say the least," says the author.

Ferdie Deering

The cure? Deering believes another re-shuffling of bureaus and agencies is not enough. He proposes scrapping the whole present setup, keeping in mind only the functions to be performed.

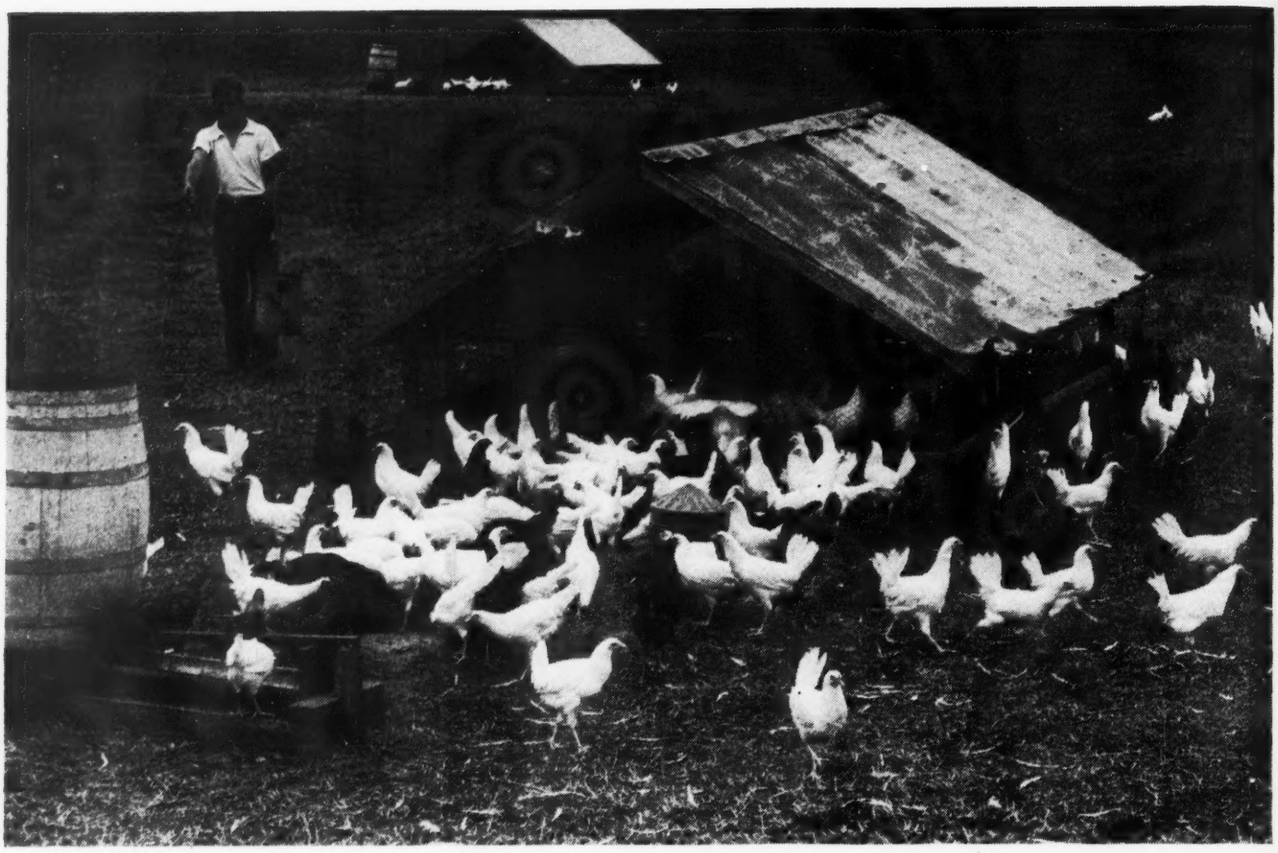
The new USDA would have three main divisions:

1. Research
2. Administration
3. Education and information

The author believes that the fact that most agencies of USDA are trying to perform all three of the above functions is one of the main reasons for the present inefficiency of the Department.

He also calls for more efficiency and democracy on the state and county levels. There should be a single agency in each state and one office in each county, under a single administrative officer in each case. Suitable farmer committees should be formed to guide the farm program on all levels from local to national.

Deering admits such a job of reorganization is not easy and won't be accomplished until there is an overwhelming public demand for it.



—USDA Photo By Forsythe

Wartime experience has demonstrated the need of feeding considerably more protein than has been fed in the past.

The Future of the PROTEIN SUPPLY

By K. J. MALTAS

A. E. Staley Mfg. Co.
Decatur, Ill.

From an address before the Midwest Feed Manufacturers Ass'n, Kansas City, Missouri

IN 1942, the U. S. Department of Agriculture developed some figures which showed that at that time about 14 million tons of protein meals (oilseed meal equivalent) would be required to do an optimum job of feeding our livestock. Their figures showed that the digestible protein content of all feeds fed, during the 1928-1942 period, including grains, mill by-products, protein meals, etc., had amounted to only about 9.6 percent whereas they concluded that all rations should average about 12 percent digestible protein to secure optimum results.

The greatest tonnage of high protein concentrates we have ever had is 8½ to 9 million tons, and that figure includes skimmilk fed on farms totaling 1,600,000 tons on a dry basis.

If we maintain livestock numbers in our postwar period around where they were in 1941, then we will continue to need around 13 to 14 million tons of protein concentrates to do an A-1 job of feeding American livestock.

Now I want to make it clear that I do not believe that we can or should produce 13 to 14 million tons of high protein concentrates next year. Our feeders are not conditioned to feed that much protein as yet, but that job is one of the most important jobs the feed industry faces. I am merely using these figures to show that our livestock feeding operations are still far short of perfection. Some experts have estimated that not over 10 percent of American livestock is fed as well as it could be in the light of our present knowledge.

If we agree that we will need more protein concentrates in the years to come than we have ever had, then from what source is it most likely that we can secure these increased protein supplies?

Let's examine the various ,possibilities among our important protein sources. Meat scrap and tankage production will vary only with the number of livestock slaughtered. Fish meal production has been rather constant for 10 years, and likely will not change much in the years to come. Milk by-products for feed likely will not increase because of their cost. Peanut meal production will likely decline and imports of copra meal probably will increase 200 to 300,000 tons—not in 1946, but in the next few years. Very few people believe that linseed oil meal production will exceed 600 or 700,000 tons in the postwar period. Almost no one seems to think that cottonseed meal production will increase above its long time average of slightly less than 2 million tons annually.

To soybeans falls the major role in maintaining an adequate protein supply for the nation in the years ahead.

That about covers the major possibilities except for the soybean. What about the possibilities of the soybean?

There seem to be several reasons why the present soybean crop of around 200 million bushels per year could expand to meet this potential need for protein.

One of the primary reasons is that no other grain or seed crop grown in America will produce anywhere near as many pounds of protein per acre as the soybean.

The second is the great versatility of its oil and meal products. For instance, its use in rations for *all* classes of livestock and poultry is an accepted fact—a feature not shared with any other protein concentrate.

Third—we probably will need less acres of corn and oats in the years to come because of greatly increased yields from hybrids and new varieties, and along with these increased yields we have a decreasing horse and mule population.

Fourth and finally, soybeans grow especially well in the primary corn and oat producing regions of our country.

If the production of other protein meals remains relatively stationary at present levels, it would require an annual production of soybeans in excess of 400 million bushels to bring our protein supplies up to the 13 or 14 million tons needed for optimum feeding.

Now—if we agree that increased production of high protein concentrates is desirable in our aim to lower production costs and to increase feeding profits—and if we agree that the soybean is the most logical source of increased protein supplies—then what are the realities or possibilities of getting increased soybean production?

DISTURBING SIGNS

There are some disturbing signs that may slow down or actually decrease the acreage of soybeans in the near future. First is the statement from many soybean growers that they must receive at least twice as much per bushel for soybeans as they do for corn, or they will reduce soybean acreage considerably.

I don't know how serious a threat this is for the long pull, but I believe that this situation will prove to be true for at least 1946, and perhaps the next 2 or 3 years.

We find in the 9 year period, October 1, 1934, through September 30, 1943, soybean prices were greater than corn prices on a Chicago basis by the following percentages:

1934—23	1939— 70
1935—29	1940— 58
1936—21	1941—110
1937—67	1942— 83
1938—74	

A review of the crop figures shows that soybean production really began to increase rapidly beginning in 1937, since which time soybean prices have averaged 77 percent more per bushel than corn.

AGRONOMISTS RECOMMEND

Another important sign that augurs for reduced soybean acreage is the repeated recommendations of some of the agronomy experts at several of our leading agricultural experiment stations to reduce soybean acreage by as much as 30 percent as a soil conservation measure.

It seems that in view of the need for more proteins, for efficient livestock production, that other equally satisfactory approaches to our soil conservation policy would be more in order than reducing soybean acreage. Better crop rotations, more liberal and widespread use of fertilizers, farming on the contour—all offer great possibilities as soil conservation measures. There is no doubt that it would help conserve our soils if we returned all cultivated acres to grass but that might be rather hard on the human race. Soybeans properly inoculated, and harvested with combines for grain, remove less plant foods from our soil than many other crops. The problems of agriculture must be viewed as a whole—not in piecemeal lots.

Another disturbing factor is a preliminary survey made by production adjustment committees in each state which have estimated that it will pay farmers to produce no more than 7,160,000 acres of soybeans for harvest in the postwar period. A group of staff members of the U. S. D. A. estimate that under a full employment situation in 1950 it will pay farmers to raise 8 to 10 million acres of soybeans for harvest. During the past 4 years, we have harvested slightly over 10 million acres per year for beans. As you will note, all of these signs point to a decrease instead of an increase in soybean acreage.

Personally, I am not that pessimistic. I believe we will see increased soybean acreage when we get squared away under a free economy.

Another factor which will have its effect on soybean acreage in the years to come is the price of edible and industrial oils. Government experts believe that we may consume around 11 billion pounds of oils and fats in the postwar period. Of this 11 billion pounds about two-thirds would be edible and one-third inedible. These same experts calculate that we will produce around 10 billion pounds of fats and oils annually.

300 MILLION BUSHEL CROP

Thus, it would seem that on the oil consumption side we could stand a crop of 300 million bushels of soybeans if other oil sources remain relatively stationary, providing we didn't import any oils, or if we exported edible oils in the same amount as we import inedible oils. As an explanation of these figures, you will note that it is estimated consumption will exceed production by 1 billion pounds. An additional 100 million bushels of beans would produce this 1 billion pounds of oil.

Since it seems we are nearer a saturation point domestically on oils than we are on protein meals, it may mean that protein meals in the future will have to carry a higher percentage of the cost of soybeans than at present. At the present time the returns on meal and oil per bushel of beans are about equal.

If corn in the postwar period should drop to 60c per bushel and soybeans to $1.20 per bushel and soybean oil to 5c per pound, soybean oil meal would have to sell at nearly present levels to enable processors to operate. Could your customers afford to buy your concentrates made from $45, bulk Decatur, soybean oil meal if corn is worth only 60c on the farm? Suppose, for example, you buy the meal at $45, bulk Decatur, and by supplementing it with other proteins, vitamins, and minerals, you produce a completely balanced hog ration. What could your hog feed customers afford to pay for such a concentrate?

VALUE OF CONCENTRATE

10 bushels of corn is required to make 100 pounds of pork.

6 bushels of corn plus 50 pounds of your concentrate will make 100 pounds of pork.

10 bushels of corn at 60c equals $6.00.

4 bushels of corn saved equals 50 pounds of hog concentrate.

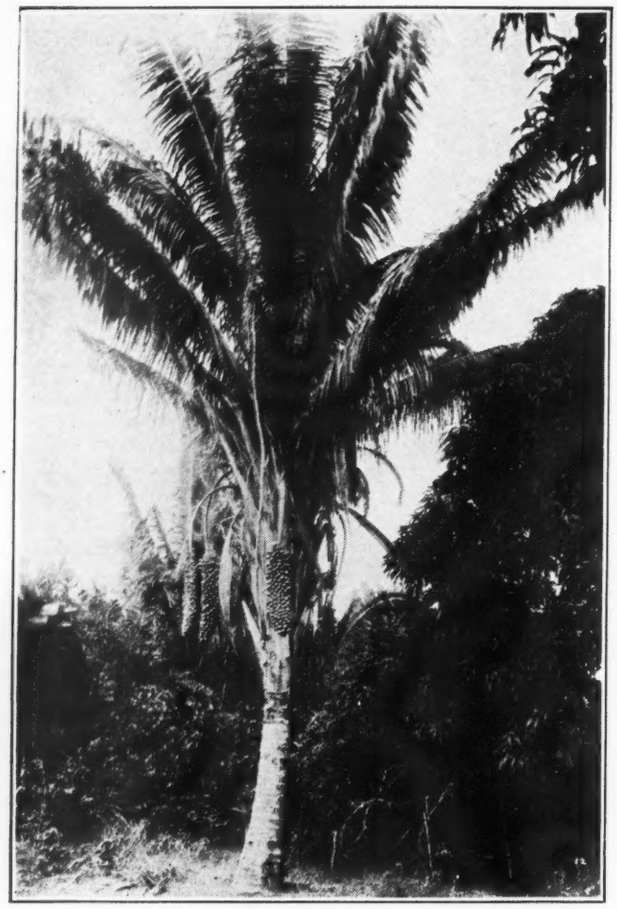
4 bushels of corn at 60c equals $2.40.

50 pounds of concentrate has a value of $2.40.

100 pounds of concentrate has a value of $4.80 or $96 per ton.

If you prefer to use the figure of 12 bushels of corn to produce 100 pounds

(Continued on page 30)



Babassu Palm.
— Brazilian Information Bureau by courtesy of Chemurgic Digest

"KNOW YOUR OILSEEDS"

• Third in a series of articles on oilseeds that compete with soybeans.

OILSEED CROPS in Our AMERICAN TROPICS

(Exclusive to the SOYBEAN DIGEST from the Middle America Information Bureau)

BEFORE the war approximately 95 percent of all tropical oils consumed in the United States were imported from the hotlands of the eastern hemisphere. But by April of 1942 the established sources of about 76 percent of our prewar imports of these products had been cut off by the enemy and, to add to the seriousness of the situation, our critical needs were doubled abruptly and our stored reserves were low.

Yankee ingenuity joined hands with the farming skill of Middle America to furnish part of our enormous requirements for strategic and indispensable tropical oils from these regions. Almost overnight a new chapter in American tropical agriculture was written, a chapter in which the 10 nations of Middle America (Mexico, Nicaragua, Guatemala, Costa Rica, El Salvador, Honduras, Panama, Cuba, Haiti and the Dominican Republic) played significant roles.

Now experts agree that, in time and with encouragement, Middle America and tropical South America will be able to supply substantial tonnages of tropical oils to the U. S. Current studies also indicate that domestic demands for tropical oils in Middle America and upper South America have at least doubled in recent years.

So far, the most important oilseed crops being developed in the American tropics are the palm oils, an inter-American staple. Palm oils are either kernel (nut) oils (kernel referring to the whole seed), or pulp (pericarp) oils. Some palm fruits yield one or the other kind, some have both. The seedcoats usually contain oil also.

At present commerce and industry derive their principal palm oil supplies from two species of palms, the coconut and the African oilpalm. Coconut oil is obtained from the fresh or the dried kernel of the nut (called "copra" when it is dried), while both the kernel and the fleshy-fibrous pulp of the African oilpalm yields oil, each kind of a different chemical composition. The pulp oil of this species is known simply as "palm oil" and the kernel oil is referred to specifically as "palm kernel oil."

COCONUT PRODUCTION

Since before the turn of the century certain of the West Indian islands and Central American countries have been the center of coconut production in the new world and the expressing of coconut oil for local use has been practiced there for years. At present several million coconut palms are growing in this hemisphere.

Among the Middle American countries where coconut production has been important is Panama, whose San Blas coconuts from carefully managed plantations have been renowned for their superb quality. The same is true for the Bay Island plantations in the great Bay of Honduras. Mexico is anxious to increase its copra production and this is possible to some extent, particularly in the southern states of Campeche, Quintana Roo, Tabasco and Guerrero. Nicaragua, for some time to come, will probably need all the coconut oil produced in that country as in past years production has been insufficient for local consumption.

Ever since the first world war the United States has been the most important utilizer of copra and coconut oil in the world, con-

Nursery planting of African oilpalm in bamboo pot.
—Middle America Information Bureau

suming in 1941, 637,970,000 pounds of the latter. In this country coconut oil has been widely used for the making of many kinds of candy and other confectionery and for roasting and frying nuts. Then, too, the coconut series of kernel oils gives 12 percent to 14 percent higher yields of glycerine than does any other vegetable or animal fat and as glycerine has many uses in industry, medicine and the arts it is not likely that this important by-product of the soap factory will be lost sight of in the palm areas of the American tropics in peacetime.

AFRICAN OILPALM

At present the African oilpalm is the principal and the most promising cultivated palm crop in Middle America. It is distinctly a war crop for although first introduced during the 1920's those introductions were but casual experiments. U. S. demands for African oilpalm oil are recent. In 1940 our soap industries used only 197 pounds of the refined kernel oil but the following year the total soared to 1,113,000 pounds.

The foremost introducer of African palm oils into the American tropics is the United Fruit Co., at present the largest tropical farming organization in the world. United Fruit is experimenting with the palm with a view of its introduction as a staple and profitable crop for citizen farmers of Middle America.

The crop responds to nursery propagation. In Honduras tropical horticulturists of this company have introduced a dozen varieties of African oilpalms of high yielding and carefully developed varieties from Sumatra, Java, West Africa and Malaya. Percentages of oils from harvested kernels range from 42 to 46 percent of kernel weight. The trees reach bearing age within 4 years. Trial plantings in several Central American countries, including Honduras, Haiti and Costa Rica, show outstanding promise as a staple, continuing crop for the farmers of those nations.

In addition to the two top-flight oil producers, according to Dr. Miriam L. Bomhard, ecologist of the U. S. Forest Service, there are some 25 other palm species that are strictly indigenous to the new world and are known at the present time to be worth commercial exploitation. In fact, there is a larger concentration of oil-yielding palms in the western hemisphere than anywhere else. From these species "new" palm oil is being produced (new in the sense of modern commercial exploitation only, for the natives have always used them) but, at present, none of these palm oils crops come from systematic plantations.

BABASSU KERNEL OIL

Foremost among these new oils is babassu kernel oil, the first to challenge the previous world supremacy of coconut oil and palm kernel oil. Thus far most of the babassu nuts in the Middle American trade are being harvested from native or wild stands of palms and these natural groves, scattered generously along many river valleys and other areas, provide ample harvests. In several areas in Middle America new and more effective machines are being used to take the oil from the babassu palm kernels.

—Middle America Information Bureau

Tung oil trees at Lavertilla Experiment Station, Honduras.

With continued improvements in oil processing equipment babassu may eventually become an important field crop in Middle America.

Another prominent new palm oil for the new world is that from the cohune palm. This palm is native from Mexico to Guatemala and Nicaragua and produces a fine kernel that has always been locally important. Like babassu nuts, but to a lesser degree, cohune nuts are extremely hard to crack (a minimum pressure of 1,800 pounds is required) and this difficulty has been a major drawback in placing this palm on a firm industrial footing. But very recently, the cracking problem appears to be solved and factory-produced cohune nut oil is being exported.

Thus far, all the new palm oils that are being exploited to an appreciable extent are kernel oils similar to coconut oil and palm kernel oil in chemical composition and utilization. No large pulp sources have been developed in the new world as yet to take the place of palm oil that plays an exclusive role in the tin-plating industry.

Palm oils, old and new, have scores of vital uses. Some of the kernel oils form part of cutting oils and greases, in modern practice African oilpalm oil is frequently a component of the heavier axle grease. The latter oil occupies a unique position in the manufacture of tin plate and terne plate and in 1941 the total U. S. consumption for tin and terne plate was 42,159,000 pounds. And in the manufacture of sheet steel in the U. S. alone millions of pounds of palm kernel oil are needed each year.

Palm oils also can be used in the manufacture of margarine, shortening, salad oils, soaps, shampoos, cosmetics and toothpaste. The pressed cakes of palm kernel (residues from which part or all of the oils have been extracted) can be utilized as a livestock feed. Babassu was the first of all the new oils to be taken up by candy manufacturers and tucum and ouricury kernel oils may also be used by confectioners.

The limit in palm oils development in the American tropics would appear to be set only by the amount that the world can, or cares to, consume. Our neighbors to the south are now utilizing palm oils produced in this hemisphere for, since the first world war, the manufacture of margarine and vegetable butters composed exclusively of palm oils has advanced remarkably in some of these countries and there is every indication that this production will continue. It is probable too that European consumption of palm oils for edible products will be resumed soon or even stepped up.

One of the significant factors in this palm oils development is the widespread and brilliant improvement in the processes for extracting the oils from their kernels or pulps. The classic method of crushing by applying direct pressure is being amplified by preliminary steaming of the kernels, by devices of filtering, decolorizing and/or deodorizing the oils, by the use of chemical solvents applied to the crushed kernels and by ingenious centrifugal extraction of the

oils. Ratios of oil recovery are thereby increasing and so are quality standards. Also significant is the fact that more of the new equipment for extracting palm oils is being installed in the actual areas where the palm crops are being grown or collected from the wilds.

Other oilseed crops produced to some extent in the American tropics include castor beans, *soybeans*, sesame seed, cottonseed, peanuts and flaxseed.

CROPS IN MEXICO

In Mexico sesame seed production has increased annually since 1933 but this oil has never entered export channels because of its popularity with the Mexican people as a salad and cooking oil.

There is some castor bean production but methods of cultivation are not well developed or standardized and although flaxseed production has increased during the past few years it is still small compared with other oilseed crops. Cottonseed has been third in importance among the vegetable oils used and peanuts are grown throughout the country but peanut oil production is not important as yet.

In recent years, in Nicaragua, the government has encouraged the production of vegetable oilseeds, and the growers succeeded in raising production to a high level but because of a shortage of oil-pressing and refining equipment most of the oilseeds were exported while processed vegetable oils were imported.

Castor bean production in Nicaragua is on a small scale. Since the conclusion of the United States-Nicaragua cotton-purchase agreement in 1942 (under the terms of which cotton acreage in Nicaragua is limited to not more than 5,160 acres annually) the production of cottonseed has been reduced sharply and less than half the seeds produced are normally exported. Peanut production is confined mostly to small patches for domestic consumption but there is considerable interest in projected plans to produce these nuts for sale in the United States.

And so, it would appear that the most newsworthy of all the oilseed crops being developed in the American tropics today are the palm crops, which for centuries have ranked among the pre-eminent potential resources of the Americas. In time other oilseed crops may be cultivated more widely in this great fertile region and contribute increasingly to the development of American tropical oils as an even more important and valuable spoke in the wheels of inter-American trade.

—s b d—

NEW ROTATION

New crop rotations are being used on the Allerton Ranch Farms in Vermilion Co., Ill. They start with last year's soybean stubble which is covered with rock phosphate and seeded to oats and clover. Then leaving the clover the third year, they put it in corn and end the 4-year rotation with soybeans.

Vegetable Oils Boost Animal Fat Output

In its recent new treatise, *World Trends in Major Oil Crops*, BAE through the author, Peter L. Hansen, points out some interesting mutual relationships between vegetable oil meal and oil cake products and the production of animal fats. The bulletin, however, is concerned more with the larger aspects of world trade in vegetable fats and oils under a rising rate of production.

It gives the yields of oil and oil meal per 100 pounds of certain important oil crops, showing that the greatest quantity of oil meal as compared with oil comes from soybeans, with sunflowers and cottonseed also high in this respect. The soybean average is 15 pounds of oil and 80 pounds of oil meal per hundredweight, or 5.3 pounds of oil meal per pound of oil.

"An interesting aspect of these oil-bearing crops is that they make for greater intensity of production of milk, butter and other animal products containing animal fats. These in turn are directly competitive with the vegetable oils for margarine and shortening. Moreover, the rich manure resulting from the use of these vegetable oil meals adds to soil fertility and makes heavier crops than would be possible otherwise, which again may contribute to the increased output of animal fat."

Concerning soybeans, Hansen says: "It is possible that the export of soybeans from Manchuria and Korea may decline during the postwar years much below prewar levels, and China may completely disappear from the world export market. The anticipated industrial development in the Far East, together with improved internal economic conditions, should raise the standard of living which would probably result in considerably smaller exportable agricultural surpluses. The Soviet Union and perhaps China may also be competing with Japan and European countries for soybeans from Manchuria and Korea.

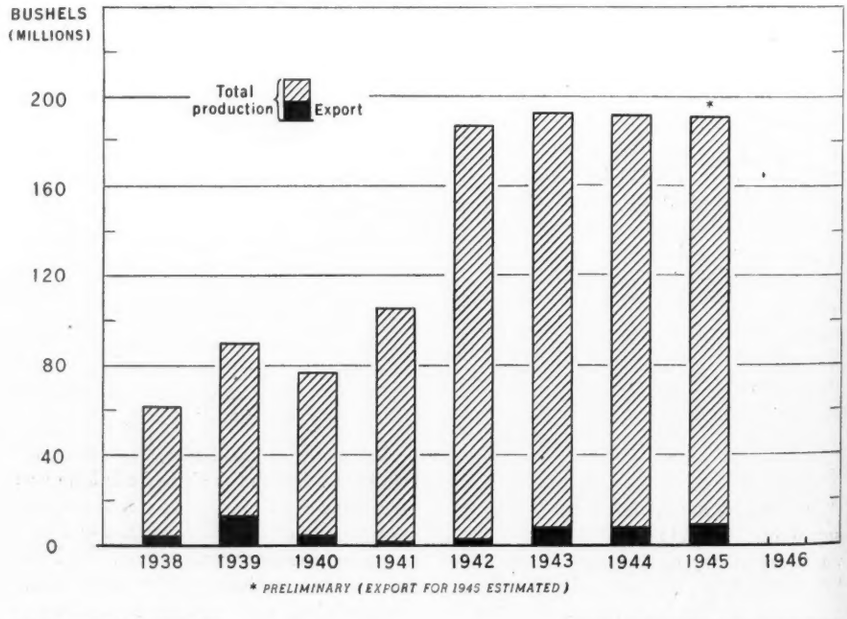
"If these developments materialize, they would result in a further decline in the quantities of soybeans and soybean products entering world markets from Manchuria and Korea, and might cause an increase in export from producing areas such as the United States and the Netherlands East Indies.

"A considerably higher world level of production of soybeans than prevailed in prewar years is expected. This will result partly from increased wartime production in the United States and partly from improved production practices and higher yielding varieties of soybeans.

"Exports of soybeans from Manchuria probably will not increase in proportion

(Continued on page 31)

PRODUCTION AND EXPORT OF SOYBEANS AND SOYBEAN OIL IN TERMS OF SOYBEANS, UNITED STATES, 1938-45



OHIO PROBLEMS

Are They Similar to Those of Other States?

By H. S. BYRD

Mgr. Swift & Co. Soybean Mill, Fostoria, Ohio

Before the Sixth Annual Conference of Processors and Agronomists at Columbus.

IN GENERAL the answer to that ques- is easy. "Yes" pretty well covers the subject. They are not identical, of course, but certainly in the area stretching from Ohio to Iowa the states face similar problems with soybeans just as they have similar problems with corn or almost any other crop grown generally throughout the region.

VARIETY PROBLEM

These appear to be quite similar in Ohio, Indiana, Illinois, Iowa, and Missouri; somewhat different in Minnesota, Wisconsin, and Michigan; and still less similar in the Southern states. These are problems of adaptation of varieties to soil, climate and other conditions to which the crop is subjected. It is largely a breeding and testing problem, and we have just begun to fight on that front.

DISEASE PROBLEMS

These will vary from state to state and from locality to locality, largely as the varieties grown are different. If my information is correct, the disease problem is closely associated with varieties, and its solution will be found probably in varietal resistance to those diseases.

SOIL MAINTENANCE PROBLEMS

These are very similar in the principal states of the soybean belt. They will depend largely on the type and topography of the land on which the beans are grown. Most of the problems of this type that we find in Ohio will be found in Indiana, Illinois, Iowa, and Missouri; and also to a considerable extent in the "fringe" states. In that respect, soybean problems probably aren't much different from those of corn. The federal Soil Conservation Service seems to think if I am correctly informed, that the soil erosion problem is more severe with corn than with soybeans. This problem, for both corn and soybeans, can and will be solved.

MARKETING AND PROCESSING PROBLEMS

When we look at marketing and processing problems we find them about the same throughout the North Central states. Under war conditions the problem has been one of getting the beans handled and crushed rather than finding an outlet for the oil and meal. Although war conditions may not last much longer, there seems every reason to believe that industrial demand for soybean products will increase rather than decrease. During the war, soybean oil meal did not nearly meet the demand for it for livestock feed. With the possibility of decreased cotton production through the South in the years ahead, it is likely that the demand for soybean oil meal for feeding will continue to increase. Population increases are going to mean a demand for greater livestock production than we had before the war. We are going to be faced with the question of whether or not we are going to produce our livestock products and the feeds that go into them in this country or depend to a considerable extent on imports of those products to meet our needs. The answer is likely to be that we are going to maintain high levels of livestock production in this country. That will mean a heavy demand for soybean oil meal for livestock feed.

HERE IS A $64 QUESTION

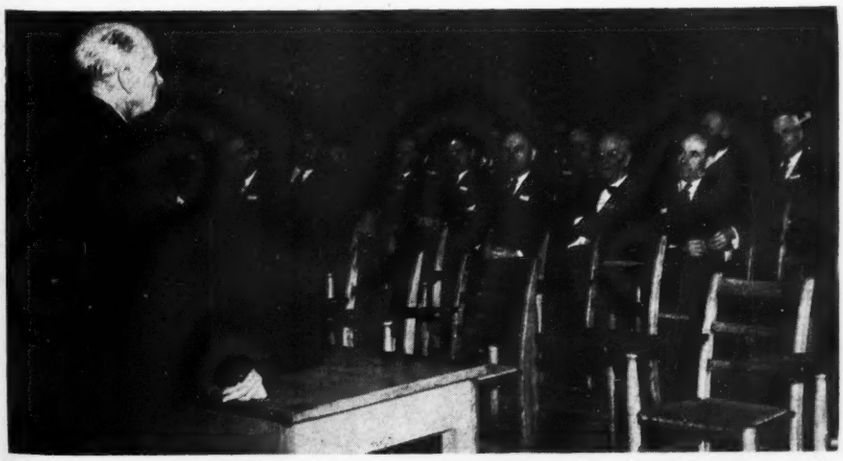
It seems to me that the real question is not whether Ohio soybean problems are similar to those of other states. The $64 question is whether we are going to let new problems and some old ones scare us out of the production of a crop for which there is a real need and an increasing demand, or whether we are all going to get together as an industry in the traditional American way and lick our problem. Our agricultural scientists at Ohio State University, as well as those at other agricultural colleges, and the U.S.D.A., have demonstrated time and again that we can solve any agricultural problem if we make up our minds to do so and cooperate wholeheartedly in doing what needs to be done.

The soybean growers of Ohio, our agronomists, pathologists, and soil scientists at Ohio State University, and the soybean processors all have what it takes to do their respective parts in this job. It seems to me merely a matter of getting the task organized in the most effective way possible.

—s b d—

The soybean needs
Control of weeds. —*Farm Journal.*

H. E. Carpenter, president of the Berea Milling Co., Lexington, Ohio, addressed the opening session of the Sixth Annual Conference of Processors and Agronomists on soybean production and utilization at Ohio State University, March 15. Representatives from Ohio, Indiana, Illinois, Missouri, Minnesota, New York and Washington, D. C., attended the meeting.



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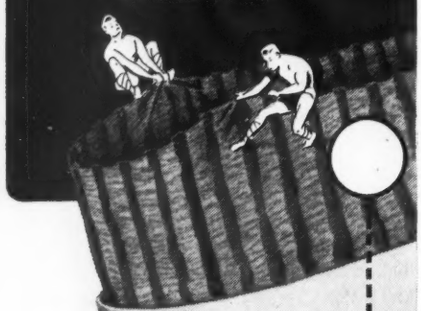

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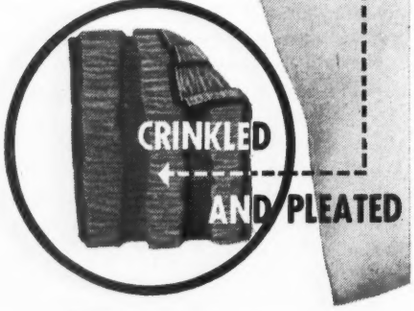

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SOY or VEGETABLE MILK

A Resume and Bibliography

By A. K. Smith and A. C. BECKEL

Oil and Protein Division, Northern Regional Research Laboratory*, Peoria, Illinois

Reprinted from Chemical & Engineering News

● *There are now a number of producers of soy milk in the United States. With soybeans one of the nation's largest crop, vegetable milk may find a larger future outlet.*

Soybean milk is an important food in China where it is commonly used as a hot breakfast drink (52). It is also used extensively throughout China as a baby food (see bibliography index) and is recommended by Ruhrah (4) and Sinclair (29) as a check on the very prevalent summer diarrhoea and intestinal disturbances among children.

Since the Japanese invasion of China, the vegetable milk has been used extensively for feeding babies and children in refugee camps. This use has afforded a unique opportunity for observation, on a relatively large scale, of the nutritional effects of soybean milk as a supplementary food. A group of the children who did not drink the milk served as a control in comparing its extra value in building body height and weight.

The observations were made in the refugee camps during 1937-39 by H. C. Hon, P. B. Mar, T. N. Read, and B. E. Read (119) of the Henry Lester Institute of Medical Research, Shanghai, and appeared in Special Report No. 12, published by the Chinese Medical Association. While the data collected and reported by these workers were incomplete in many respects, nevertheless the conclusions are significant, some of which appear in the summary of chapter IV, ". . . the results showed that children receiving soybean milk put on much more weight than those not receiving the soybean milk. Among control groups, children over 1 year old who received soybean milk also showed a somewhat greater monthly increase in height, although not so marked as the monthly increase in body weight."

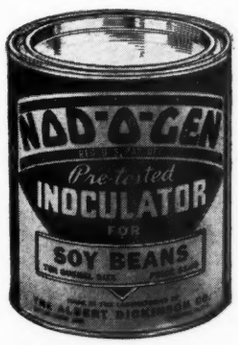
Another important food product which is derived from soybean milk is "teou fu" (7, 27, 39, 53, 83). This is prepared by precipitating the protein from soybean milk with magnesium chloride, calcium sulfate or similar salts, or with acid, and by pressing the precipitated protein into cakes. The teou fu, or bean curd as it is also called, corresponds to the casein which is precipitated from cows' milk by souring or with the action of rennet; for this reason, the teou fu and fermentation products derived from it are sometimes referred to as soybean cheese. A complete description of the bean curd and its many modifications will be found in *The Soybean* (53) by Piper and Morse.

Yuba is another ancient oriental food which is prepared by removing and drying the protein film that forms on the surface of soybean milk when boiled. It is dried in the form of brittle sheets or sticks and is a popular food with both the Chinese and Japanese people.

Soybean milk as ordinarily produced does not have the bland flavor or smooth texture of cow milk, nor has its nutritive value been as scientifically evaluated. Nevertheless, its long and successful use in China and the available experimental data on its use in feeding children indicate that it has good nutritive properties.

A. K. SMITH

*One of the laboratories of the Bureau of Agricultural and Industrial Chemistry, Agricultural Research Administration, U. S. Department of Agriculture.



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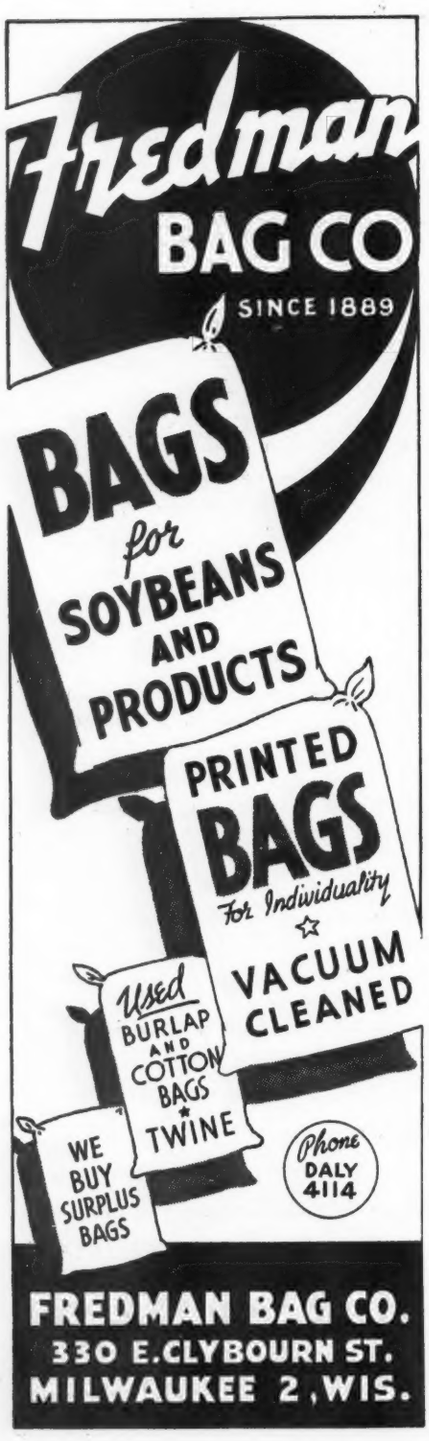
Even in the United States where animal milk has received the greatest recognition as a necessary food for both children and adults, the soy milk is being produced by several companies. One successful processor is unique in that he is using the vegetable type of bean rather than the field varieties in order to obtain a superior tasting product. In addition to its use as a beverage, the dry milk powder has considerable promise as an ingredient of pastry and bakery goods and as a component of prepared flours.



PREPARATION OF SOYBEAN MILK

An examination of the literature on soy milk reveals that there are many variations in its preparation. Either the whole bean or the full fat soy flour may be used in making this product, with about the same final results; if prepared from solvent-extracted soybeans, the milk would be lacking in fat. The following description will serve as a general outline of the process and will indicate some of the variations which have been patented or developed as improvements over the original method. The yellow-seeded varieties of beans are recommended for making soy milk.

The beans are washed several times with water to free them of dirt or other foreign matter and then soaked in water about 10 hours in summer, or as much as 24 hours in winter. The beans are ground to a mush with the addition of small amounts of water, and the mush is then extracted with water or a dilute alkaline salt solution so that the final ratio of milk-to-beans by weight will not be greater than 8:1. The insoluble residue is removed by means of a cloth filter or a centrifuge, and the milk is boiled for about 20 minutes.

In many of the processes described in the literature, sugar, salts, and fats are added to the extract to bring the concentration of these constituents to about the same value as that of cow milk. In some preparations, coumarine (53) vanillin, (51) and chocolate or malt (18, 21) have been added to the milk to improve its flavor. Oil, rich in fat-soluble vitamins, is also used for enrichment in some of the modern preparations.

The composition of soy milk will have a relatively wide variation for several reasons. There are some marked variations in the composition of the different varieties of soybeans, but more important deviations will result from such factors which influence the extraction procedure as the fineness of grinding of the mash, ratio of the water or salt solution to the beans, and the temperature of extraction. The addition of oil or fat, sugar, salt, and flavoring materials may be the cause, however, of the greatest variation in the milk's composition.

A compilation of data from various sources on the composition of soy milk was made by Piper and Morse (53). These data along with the composition of cow milk are given at the bottom of the page.

The pH of soy milk as determined in this Laboratory is 6.6 to 6.7; when the milk is allowed to sour in a normal way, the pH will drop to about 4.9 and cause precipitation of most of the protein.

From the literature, the authors have selected examples illustrating a few specific variations in the preparation of soy milk which will influence its taste, texture, and composition.

Fritz Gossler (11, 12, 15) prefers extracting the ground beans with a hot solution of phosphate. After filtering out the insoluble part of the mash, he adds milk sugar, salt, sodium carbonate or bicarbonate, and a choice of coconut oil, sesame oil, or pistachio nut oil, and finally, a suitable flavoring material.

Monahan and Pope (21) prepare a dry milk powder and emphasize the use of malt, chocolate, or cocoa as a flavoring ingredient. Melhuish (23) modifies the process by removing the soybean oil, which he claims has an undesirable flavor, and by replacing it with sesame oil and acids like butyric acid. He also recommends (35) combining the peanut with the soybean to improve the flavor of the milk powder.

Richards (55) dries and toasts the residue from the milk preparation and recommends it as a breakfast food. Kellog (91) sterilizes soybean milk and then inoculates it with *Bacillus Acidophilus* to produce a "buttermilk" type of product.

The following classification of the bibliography will indicate the wide interest in soy milk and assist in finding information on various phases of the subject.

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Composition of Soybean Milk Compared with Cows' Milk

	Percent Water	Percent Protein	Percent Fat	Percent Carbohydrate	Percent Other Substances	Percent Ash	Percent Total Solids	Percent Solids not Fat
Soybean	92.00	3.70	2.00	1.80		0.50	8.00	6.00
Soybean	90.00	4.95	2.97	1.34		0.44	9.70	6.73
Soybean	89.25	3.15	3.10	3.02	1.02	0.45	10.74	7.64
Soybean	92.50	3.02	2.13	0.03	1.88	0.41	7.47	5.34
Cow 1/	87.3	3.42	3.67	4.78		.73	12.6	8.93

1/ Food and Food Products, edited by Morris B. Jacobs.

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(Chronological Arrangement Through 1944)

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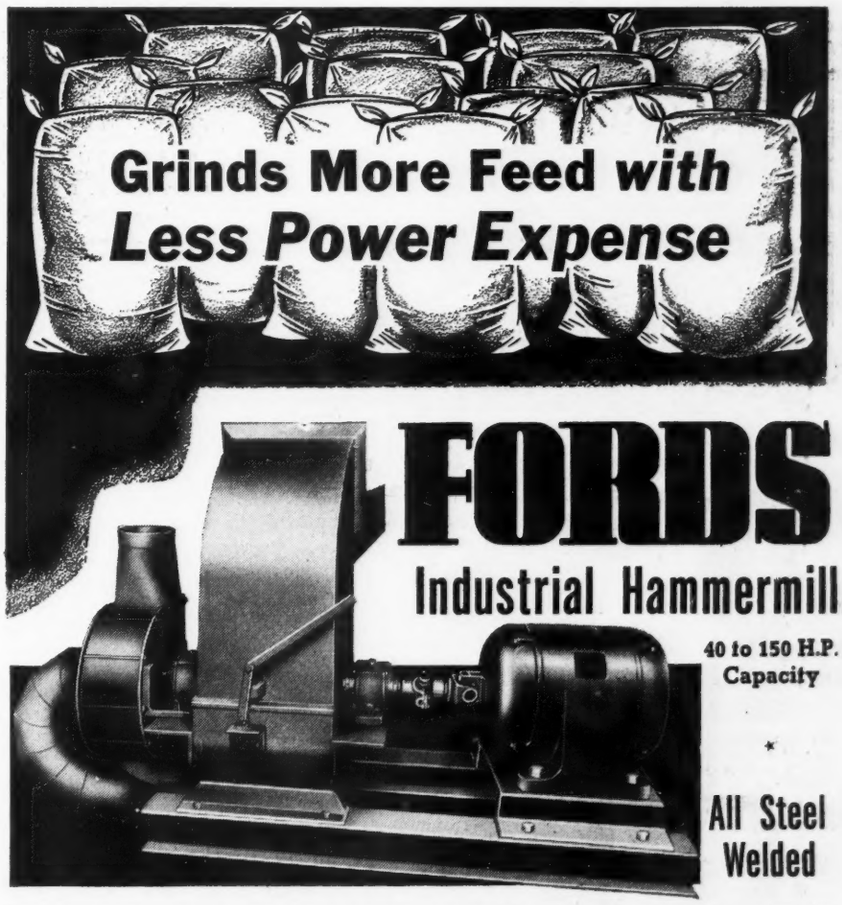

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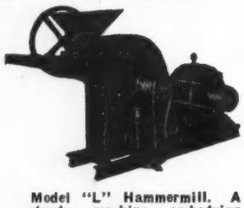

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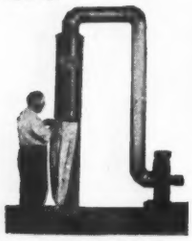

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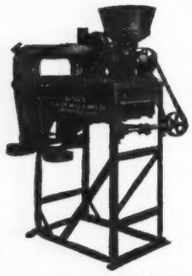

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TURKEY PLANS RISE IN OILSEED OUTPUT

The Turkish government is promoting increased oilseed production in order to offset shortages in olive as well as in other vegetable oils and to provide feed for livestock. This program is part of a general plan for seed distribution to farmers designed to stimulate production of specified crops and to compensate growers for last year's losses.

During the past year, sesame seed and soybeans were distributed to farmers from seed improvement stations. In 1946, it is expected that over 100,000 acres will be planted to sunflowers, poppy, and soybeans, compared with approximately 70,000 to 80,000 acres during prewar years. Every assistance is being given to encourage sowing and to improve the yield.

The Coming Relaxation of

Commodity Market Restrictions

Two developments of great importance are obviously getting nearer:

1. Re-opening of futures markets still closed because of world conditions—creating enlarged interest in commodity trading as a whole.
2. Elimination of "ceilings," "floors," and other restrictions on free price movements.

When normal conditions in these two respects have been restored, trade interests will need fast, *valuably* interpretive information. This type of material, the kind that experienced businessmen can use advantageously, is what our firm supplies regularly—in regard to all important commodities. The operations of our 90 offices, 60 of which are located in areas where commodities are either largely grown or processed, and all which are interconnected by 40,000 miles of leased wire, are obviously an aid in speedy transmission of such data.

We would like to have an opportunity to consult with you now regarding what specific services we can perform for you. Such a consultation can be arranged at your pleasure with one of our executives in any of our 90 offices accessible to you.

MERRILL LYNCH, PIERCE, FENNER & BEANE

Brokers in Commodities and Securities
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IOWA SOYBEAN YIELD CONTEST THIS YEAR

The Iowa 5-Acre Soybean Yield Contest is being resumed in 1946, Joe L. Robinson, secretary of the Iowa Corn and Small Grain Growers Association, Ames, has announced.

In addition to the state contest and local contests to be sponsored by local organizations, the Association will conduct 12 district contests for the first time this year. Prizes totaling $470, which will include $50 to the state winner, are being offered.

The Iowa soybean yield contest was initiated by the Iowa Corn and Small Grain Growers Association in 1941, and has been held every year since except 1945, when it was suspended due to war conditions.

Entrance deadline will be July 31.

The Iowa Soybean Processors Association, at a meeting held in Ames April 16, endorsed the Iowa yield contest.

The meeting was addressed by Martin Weiss and R. R. Kalton of the Farm Crops Department, and R. K. Bliss of the Extension Department at Iowa State College.

There was a round table discussion on soybean contracts led by R. B. Houghtlin, president of the National Soybean Processors Association. Clark Cooley, Spencer Kellogg & Sons, Inc., Des Moines, president of the Iowa Association, presided.

SOYBEAN OIL TO SPAIN AND ITALY

Five thousand metric tons of soybean oil have been allocated for export to Spain during the April-June quarter, in return for an equal amount of olive oil for export from Spain to the U. S., the Department of Agriculture has announced.

Arrangements have been made with the Italian government for a trade of 2,500 metric tons of soybean oil for olive oil on the same basis and during the same period, according to USDA.

In order that the shipments might be made as early as possible, USDA announced that applications by private firms for export licenses to ship soybean oil to the above countries would not be received after April 25 and April 22 respectively.

—s b d—

NEW DIVISION BY PILLSBURY FIRM

Formation of a new Pillsbury Mills feed and soy mills division consolidating operations of seven Midwest plants is announced by Philip W. Pillsbury, president.

Clyde H. Hendrix, who has been vice president of sales for the feed mills, has been appointed vice president of the new division, with headquarters in Clinton, Iowa.

Pillsbury's feed plants are situated in Minneapolis, Clinton and Centerville, Iowa, and Atchison, Kans.; in addition to soybean plants in Clinton and Centerville, and a new feed plant under construction in Lima, Ohio.

Hendrix has been associated with Pillsbury since 1942.

CLYDE H. HENDRIX

"I look at it this way:"

"WHILE WE WERE all busy batting down the Axis, war needs came first with the railroads. Everybody knows how they stood up to their overwhelming job, including carrying the record-breaking crops we raised.

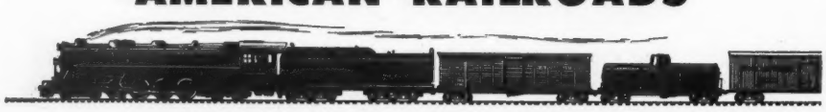
"And now that the war is over and the railroads can get the materials they need for new cars and engines, they are going to be able to give us better service."

★ ★ ★

Railroads are in active partnership with the country's food and fibre producers—connecting thousands of farms with every market throughout the United States.

Railroads are improving their facilities... adding new equipment... planning ahead in order to have the *right kind* of cars, in the *right quantity*, at the *right places*, at the *right times* — so that crops can be moved with even greater smoothness and efficiency than the American farmer enjoyed before the war.

AMERICAN RAILROADS



IN PARTNERSHIP WITH ALL AMERICA

COMBAT MALNUTRITION WITH

High Protein Spaghetti

While America's wartime industry marked rapid strides in the development of machines for war, the food industry was making its mark in meeting food needs created by war.

In 1943 a request came to the United States for a high-protein spaghetti to be used in rehabilitation feeding. The idea was to combat malnutrition among the people of Greece and other countries by increasing the nutritional value of spaghetti, a dietary mainstay.

Plain spaghetti is made of durum flour and water and contains only about 12 percent protein. The Special Commodities Branch in the U. S. Department of Agriculture set to work in cooperation with the industry and with federal food technologists, and after experimenting came up with a spaghetti product consisting of 10 percent soya flour, 2 percent whole dried egg, 88 percent durum flour, and water. Consistency of the dough was suitable and the cooked product was palatable. In taste and color the product was almost the same as the old-time spaghetti with a slight soya taste added. This change raised the protein content to 17 percent.

Contracts were let to manufacturers and by January 1944 the first shipment was on its way to Europe. To conform with the definitions and standard of identity established by the Food and Drug Administration, and thus permit interstate shipment, the formula was further modified to 12.5 percent soya, 5.5 percent egg, and 82 percent durum, and was called officially durum flour, soya and egg spaghetti with a protein of 18.8 percent.

First shipment of this improved spaghetti went to Europe in May 1945. The reception was good and the results equalled the reception. The new product may never prove popular in American groceries, but abroad—where a macaroni product usually is consumed as a food in itself—the added protein is highly desirable to combat malnutrition. The new product may continue to serve in relief feeding in many areas.

USE OF NITROGEN SIDE DRESSING

Nitrogen side-dressing of soybeans in addition to the regular application of fertilizer at planting time may prove profitable under certain conditions, according to tests conducted last year by Dr. John C. Anderson, agricultural experiment station, New Brunswick, N. J.

Soybeans were planted on loamy sand, following a corn crop. All of the plots received 750 pounds per acre of 5-10-5 fertilizer disked in after plowing. In addition to this application, half of the plots were treated with 40 pounds of nitrogen per acre at the time that the first blossom showed.

Anderson states that he believes these differences shown by the tests are large enough to be significant, even though they are the results of only 1 year's experiments.

The table below gives a summary of the tests in bushels per acre.

Variety	750 lbs. 5-10-5 per acre.	750 lbs. 5-10-5 per acre plus 40 lbs. nitrogen side-dressed
Earlyana	13.8	27.2
Lincoln	17.7	32.7
Chief	17.6	33.3
Granger	16.3	30.7
Seneca	14.8	35.6

SPECIAL PRODUCTS

For the Special Needs of Industry

ALPHA* PROTEIN A chemically-isolated pure soybean protein for use as adhesive in the manufacture of coated paper and paperboard, for calendar and tub-sizing, as protective colloid or stabilizer in various emulsions and as a basic ingredient along with Nelio Gum Rosin in the "Prosize" process. The "Prosize" process is adaptable to many types of paper sizing problems. "Alpha" Protein is manufactured under exacting control to insure uniform high quality.

PROSEIN* A mechanically refined soybean protein product for use as an extender for "Alpha" Protein and casein in coated papers; as an adhesive in ground and pattern colors of washable wallpaper; and as protective colloid or stabilizer in various emulsions. Prosein is manufactured under exacting control to insure uniform high quality.

SPRAYSOY* A special soybean product for use as a sticker and spreader for agricultural spray materials.

MULSOYA* A water soluble derivative of isolated soybean protein used for textile sizing and as a stabilizer of emulsions.

*Trademarks registered U. S. Patent Office

Samples are available to manufacturers upon request. Correspondence from growers interested in further details will be welcome.

THE GLIDDEN COMPANY

SOYA PRODUCTS DIVISION

5165 West Moffat Street Chicago 39, Illinois

KELLER BEESON SPARK PLUGGED INDIANA SOYBEAN CROP

INDIANA has closely paralleled Illinois in the development of soybeans, and until the recent expansion of acreage in Iowa, ranked as the second soybean production state in the nation. As leader of the soybean project in Indiana since 1924, Keller E. Beeson has seen the acreage planted for seed harvest grow from 53,000 in 1924 to 1,532,000 in 1944, and from 108,000 for hay to 462,000. To contribute to this striking development of the use of soybeans, he edited the Purdue University Extension Bulletin on soybeans which has been revised three times; prepared numerous campaign letters, and posters, wrote scores of farm page and farm paper stories.

Through hundreds of farm demonstrations, meetings, radio talks, etc., the newer improved varieties have been encouraged and the Hoosier farmer educated to their use along with other desirable cultural practices. Supervision of seed certification activities on soybeans since 1924 which have included 20 varieties during the period has resulted in very rapid acceptance of these varieties and quick multiplication for extensive use. In recent years the rapid expansion of the acreage of certified Richlands and Earlyanas has made possible their widespread use in their areas of adaptation throughout the soybean belt.

A new high in certification of soybeans was reached in Indiana in 1944 with the inspection of 12,820 acres and the certification of a quarter of a million bushels of seed.

Through the Indiana Corn Growers' Association which Mr. Beeson serves as Secretary-Treasurer a soybean yield contest has been developed which has now completed its fifth year. Through this contest the cultural practices followed by superior growers are being analyzed and will eventually form the basis of educational activities on better production methods.

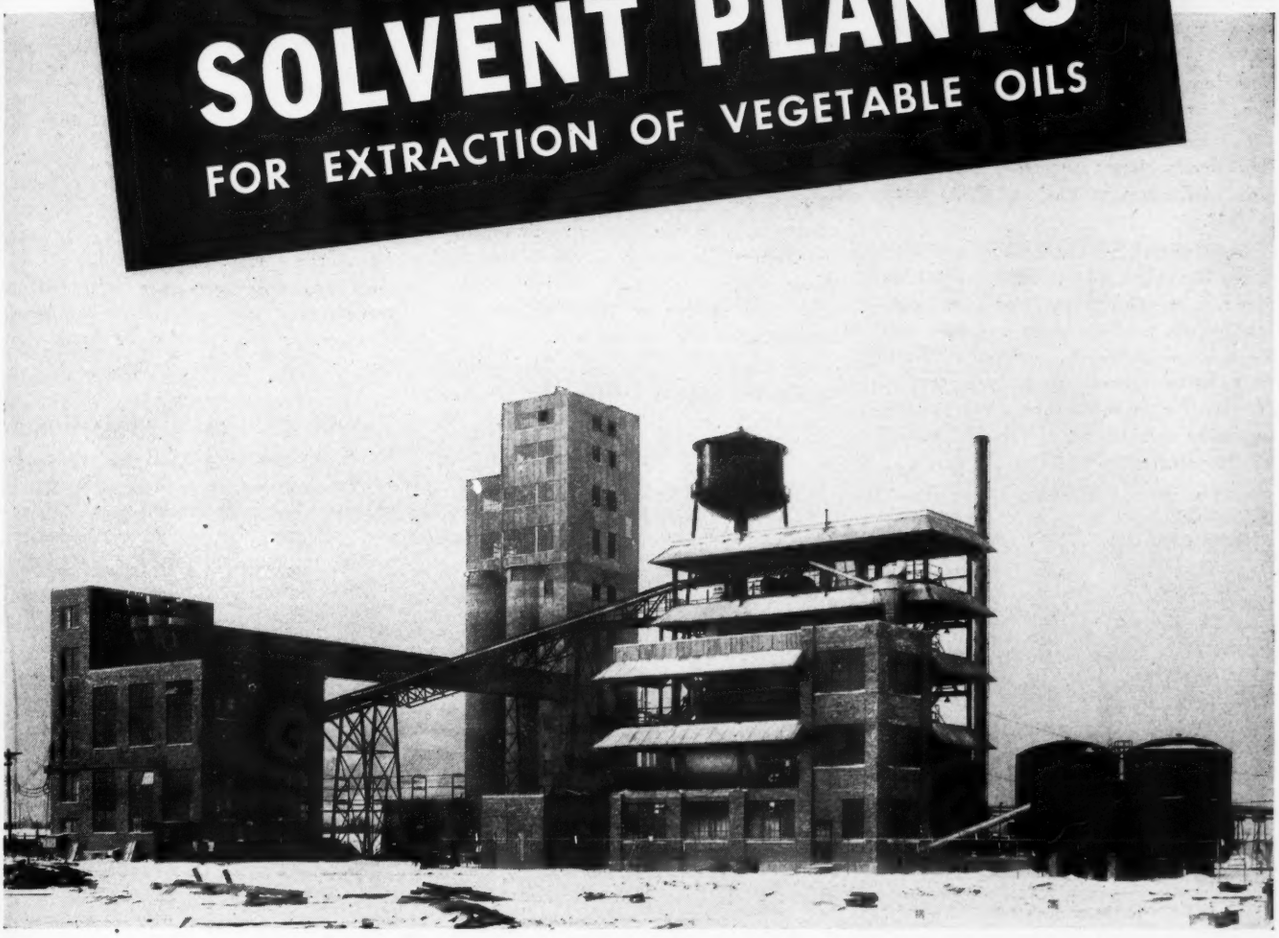
Educational work through Purdue publications on vegetable varieties of soys has given some stimulus to their production and use, and occasional growers are multiplying the leading varieties.

Mr. Beeson served as president of the American Soybean Association in 1934-35 and as secretary-treasurer from 1935 to 1938. He has served on many committees of the Association since 1925, his latest effort being in the revision of the constitution and by-laws. In 1935 the plan of printing the papers of the annual meeting preceding the meeting in order that they could be distributed at the annual meeting, was inaugurated. In the immediate years following, the preparation and distribution of monthly mimeographs to the membership of the Association, served as a forerunner of the *Soybean Digest* which Beeson aided in starting. He has contributed to this publication from time to time.

Through the cooperation with the members of the agronomy staff of Purdue University, the American Soybean Association has met three times in Indiana following its original meeting in 1920. This has developed considerable interest among Hoosier growers for the Association and the crop which it sponsors.

When history records the place of the soybean in Indiana agriculture, the work and name of Keller Beeson will have the leading place in it.

BUILDING SOLVENT PLANTS FOR EXTRACTION OF VEGETABLE OILS



A GOOD CHEMIST cannot build a successful vegetable oil extraction plant—alone. The chemical engineer is relied on for basic research, much of the fundamental engineering, and constant checking and supervision throughout the designing and building of the plant.

Collaborating with him there must be a force of specialists in such fields as mechanical engineering, instrumentation, vessels, piping, electrification and structural design, as well as construction groups, purchasing, accounting and administrative staffs. Each engineered detail is a link in the chain toward perfection.

The Blaw-Knox organization affords to plant builders all of these requisite forces—plus wide experience both in fundamental engineering of processes and equipment and in building of complete carefully integrated plants.

Seven Blaw-Knox plants have been awarded the Army-Navy "E", and have regularly received renewal stars for continued high achievement in the production of war materiel.

BLAW-KNOX DIVISION
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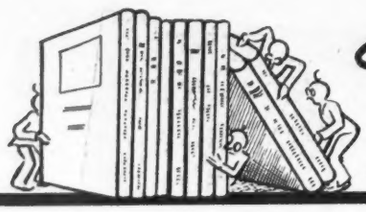
BLAW-KNOX PROCESS EQUIPMENT



Publications

New Jersey

GROWING SOYBEANS IN NEW JERSEY, by C. S. Garrison, *Circular 499*, New Jersey Agricultural Experiment Station, New Brunswick, N. J.

The acreage planted to soybeans on New Jersey farms increased from less than 4,000 acres in 1930 to 57,000 acres in 1943.

Soybeans in New Jersey are used primarily for hay and silage. In 1944 approximately 61 percent of the total acreage was used for these purposes, and the wartime feed emergency caused farmers to harvest approximately 27 percent of the crop for grain. Pasture, green manure and other uses accounted for the remaining 12 percent.

Soybeans are well suited to a variety of crop rotations in New Jersey. On the general dairy farm they may follow corn and precede small grains. In central and southern New Jersey it is possible to use soybeans in a double-cropping system. A good example is soybeans planted following an early harvested crop such as winter barley, both crops being harvested in the same growing season.

Highest yielding grain varieties in the state are Chief and Granger. Chief is the most productive full-season variety that can be grown in central and southern New Jersey. Granger is a shorter-season variety used in the northern part of the state. Seneca, another short season variety, shows promise but has not been under trial long enough to be added to the recommended list of varieties.

For forage and pasture, Chief, Black Wilson and Kingwa are the most productive varieties.

Nutrition

STABILITY OF SOYBEAN FLOURS, by L. J. Filer, C. J. Martin, and B. F. Daubert, University of Pittsburgh, in *Industrial and Engineering Chemistry*. December, 1945.

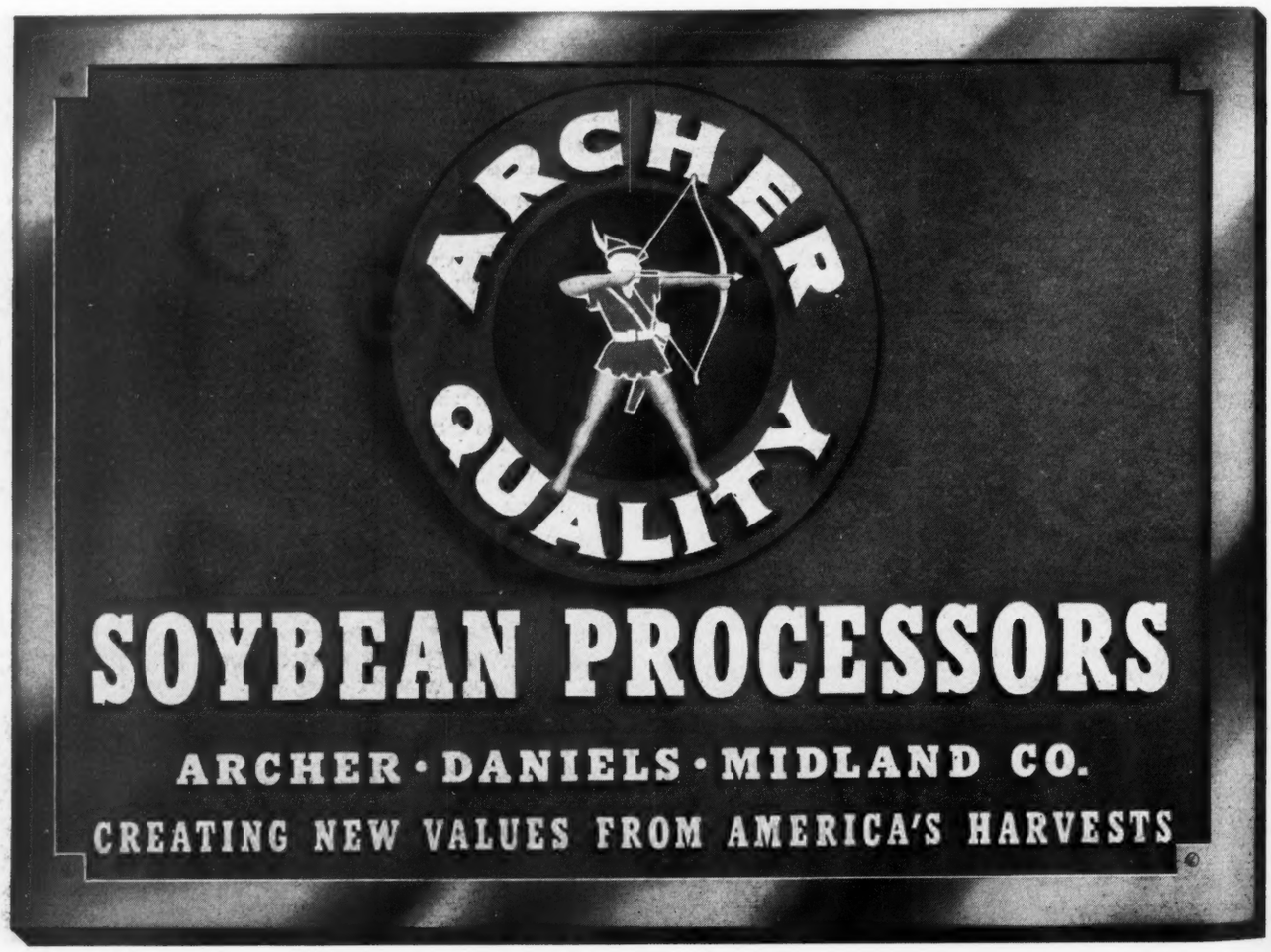
The general acceptance of soy protein by the public largely depends on the control of two factors, the production of soy products free from objectionable flavors, and the development of suitable technique for flavoring and blending of soy products with other foods.

Fat rancidification occurs in soy flours, grits or flakes subjected to long periods of shelf storage.

Various commercially available soy flours and grits have been subjected to accelerated oxidation studies. The keeping times or stability of these flours vary directly with their fat content.

SOYBEANS AND SOYBEAN PRODUCTS, by Gladys E. Vail and Mary L. Smull, Department of Food Economics and Nutrition and Institutional Management, Kansas State College, Manhattan, Kansas, in *American Dietetics Association Journal*, December, 1945.

For several years prior to World War



II the results of experimental work demonstrated that yeast bread containing 3 percent soy flour was more acceptable to many consumers than all-wheat bread. This greater acceptability was based on superior flavor, keeping or toasting quality.

Since the war the tendency has been greatly to increase the soy flour content of many products, for example, as much as 50 percent in quick breads.

But a high proportion of soy flour is readily detected by the average consumer and odor, flavor and appearance of the product may be objectionable.

Repeated experiments have shown that 10 or 12 percent of soy flour is acceptable to most people. As a rule, muffins of all types, corn bread and other quick breads with the possible exception of biscuits carry this small amount of soy flour without noticeably affecting flavor.

Satisfactory waffles and griddle cakes may contain double this proportion of soy flour. Ten percent soy flour may be safely added to most yeast roll mixtures.

Cookies and gingerbread are two of the most satisfactory products in which to use soy flour.

The authors conclude that the use of a limited quantity of soy flour or soy grits in many products, rather than large amounts in a few, is a desirable practice.

Feeding

NEEDS FOR PROTEIN SUPPLEMENTS. Report of the Chief of the Bureau of Animal Industry, U. S. Department of Agriculture, 1945.

Experiments conducted during the last few years on the substitution of soybean oil meal and other plant proteins for a part or all of the animal protein have served to emphasize the requirements of hog producers for protein feeds and to point out the inadequate amounts actually fed on many farms.

The potential needs of the swine industry for protein feeds are estimated at 4,760,000 tons, a figure greatly in excess of present national usage and of the portion of current total protein-feed production going into swine feeding.

Maximum use of good pasture crops can meet part of the apparent protein deficit. Nevertheless, it appears that a considerable saving in corn and other grains could be effected if more high-protein feeds were produced and used in swine production.

THE USE OF SOYBEAN OIL MEAL IN THE DIET OF GROWING CHICKS. —Effect of Different Grains. By D. Whitson, J. C. Hammond, H. W. Titus and H. R. Bird. *Poultry Science*, 24 (1945) No. 5, pp. 404-416.

This contains an extensive bibliography on proteins from soybean oil meal.

Coconuts

AGRICULTURAL GEOGRAPHY OF THE PHILIPPINE ISLANDS. By Reginald G. Hainsworth and Raymond T. Tupper, Office of Foreign Agricultural Relations, U. S. Department of Agriculture, Washington, D. C. 72 pages.

The soybean industry is vitally interested in the future of the Philippines, since the sugar and coconut economy of these islands has been so closely tied to that of the United States.

In 1938 77 percent of all Philippine exports came into the United States. At the same time 70 percent of goods imported into the Philippines was from the U. S. These were largely cotton goods, iron and steel manufactures, machinery, automobiles, and processed foods.

Coconut oil exported to the U. S. has been duty free up to 200,000 long tons a year, with the regular duty of 2 cents a pound applied to amounts above that figure. All coconut oil from the Philippines, however, is subject to a processing tax of 3 cents a pound, the proceeds going to the Philippine government.

This booklet is a good graphic summary of the agricultural resources and economy of the Islands.

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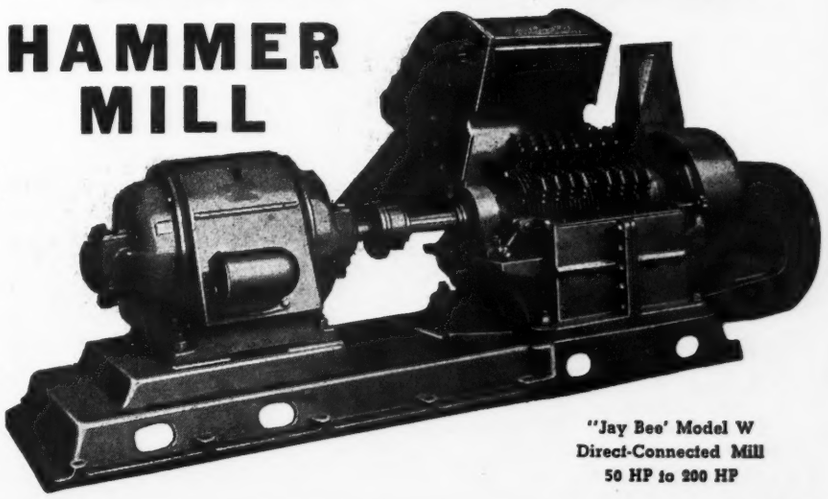

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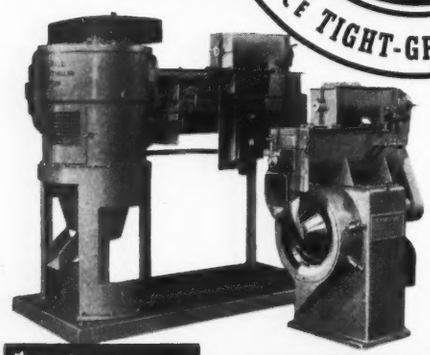

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MINERAL OIL BANNED IN SALAD DRESSINGS

Salad dressings containing mineral oil hereafter will be considered adulterated regardless of the form of labeling under which they are packed, the Food and Drug Administration at Washington has announced.

Effect of the announcement (TC-8-A) is to prohibit interstate shipment of mineral oil containing dressings. In the past FDA has not objected to use of mineral olis in foods intended for special dietary use by individuals required to restrict their caloric intake when the foods were labeled to show the mineral oil content. It has objected to its substitution for food oils in common foods, considering this an adulteration.

FDA's decision to outlaw mineral oil-containing salad dressings, even though labeled for special dietary use, was based upon evidence it has been accumulating as to the harmful character of mineral oil.

This evidence was recently accepted by a federal court.

—s b d—

MALTAS

(Continued from page 13)

of pork, which many people claim is more nearly correct, your hog concentrate would have a value of $144 per ton.

At the present time there are about 140 soybean mills in the country with equipment to crush 172 million bushels of soybeans annually, which exceeds the supply of beans we have had available for crushing in any year by some 20 million bushels. This figure does not include any mills which crush soybeans on a part-time basis.

Does this have any significance to the formula feed manufacturer? Yes, I believe it does. I believe it means that it isn't likely that you will buy soybean oil meal at bargain counter prices in the post-war period. Crushing capacity in excess of the supply of raw materials will mean strong bidding for soybeans with the full year's crush going to those that can pay

the most for the beans, by getting the most for their products and maintaining the lowest cost of production in their own plants. As Jimmy Durante would say, "Everybody's trying to get into the act," and a lot of them have succeeded in doing so—not only in the soybean industry but in the mixed feed industry as well.

The feeding of livestock is fast becoming a highly specialized scientific job. Because of this, the formula feed manufacturer is destined to play an ever increasing part in the feeding and management of our livestock industry.

The future of the formula feed industry is dependent on adequate supplies of protein meals to permit the compounding of rations which will produce more pounds of top quality livestock products at lower costs. I cannot visualize a successful livestock industry, nor a successful formula feed industry, without large supplies of protein concentrates.

—s b d—

OILS AND FATS

(Continued from page 16)

to the increase in production. A larger part of the soybeans produced is likely to be used in home consumption. There is a possibility, however, that relatively more soybeans may be exported to the Soviet Union and China.

"If this should be the case, the U. S. export of soybeans and soybean products to European countries might reach a level comparable with or perhaps above immediate prewar years.

"The future of international trade in soybeans is very difficult to foresee as it is tied up with the economic development of the Far East."

The 62 pages of text explaining the positions of the major oil crops here and abroad concludes by saying that a continued world expansion of vegetable oils means increased international trade because a large part of this increased production is expected in surplus-producing regions. It assumes that this expansion in Africa and the Far East will enable those countries to buy more factory goods from the United States. It argues that the betterment thus realized to farmers and stockmen through greater domestic payrolls will overcome any damage that moderate reduction of American oil crops might cause.

—s b d—

WEISS

(Continued from page 8)

December from military service. He was discharged with the rank of lieutenant-colonel after serving with Patton's Third Army in Europe and as a gunnery instructor at Fort Sill, Okla.

He will spend a portion of his time at the Station on the breeding work, with which he was associated prior to entering the army.

The breeding program has been greatly expanded during the past several years. The results of this expansion are evident in the promising new material grown in the breeding nurseries at Ames and for northern Iowa at Kanawha. Intensive work is underway in the development of new selections from crosses, with particular emphasis on plant height, earliness of maturity, good yield, and superior chemical composition, for the counties in the northern area of the state.

It will be several years, however, before the results of the expanded program will produce varieties available for distribution to Iowa farmers, the Station workers state.

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GRITS and FLAKES... FROM THE WORLD OF SOY

A $10 boost in the price of protein meals was favored by members of the American Feed Manufacturers Association who participated in a recent nationwide poll. Members also favored removal of all agricultural price ceilings.

* * * *

A continued burlap shortage in 1946 is predicted by Ferdinand H. Rhoden, head of burlap purchases for Chase Bag Co., who recently returned from India. The likelihood of a short jute crop, together with labor and political disturbances, makes increased production by Indian mills out of the question, says Mr. Rhoden.

* * * *

It Pays to Plant Soybeans, is title of an interesting booklet describing soybean culture in South Dakota and Minnesota, issued by Western Soybean Mills, Sioux Falls, S. D.

* * * *

Officers and members of the newly reorganized Missouri Farm Chemurgic Commission include: Paul K. Justin, chairman, St. Louis; Paul Doll, secretary, Jefferson City; Dr. Harold Vagtborg, Kansas City; Harry Plattner, Malta Bend; and Dan McKee, Joplin.

* * * *

The Japanese super-battleship Yamato was powered by a soybean oil fuel during its suicidal sortie off Kyushu during the closing days of the war, the U. S. naval technical mission to Japan has disclosed, according to United Press.

* * * *

Use of from 5 to 10 percent of soy flour in quick and yeast breads as a means of stretching the cereal supply, an amount which can be added without changing the baking method, is recommended by April *Iowa Farm Economist.*

* * * *

John J. Woods, Jr., and James N. Woods, active partners in John J. Woods & Sons, Kansas City, Mo., were both honorably discharged recently from the U. S. Navy after service in the European and Pacific war theaters.

* * * *

J. D. Sykes has been appointed director of public relations for the Ralston Purina Co., St. Louis, succeeding E. G. Cherbonnier. Earl A. Sindecuse and Otis O. McIntosh continue as directors in the public relations department.

* * * *

The appointment of Melvin E. Mundt as soybean buyer for General Mills soybean processing plant at Belmond, Iowa, is announced. Well-known in the soybean industry, Mundt owned and operated a country elevator at Clutier, Iowa, for 20 years, and recently had charge of the Sac City, Iowa, branch office of the W. M. Bell Co.

* * * *

Senate Bill 968 *which continues to suspend prohibition of the purchase of margarine by state institutions until July* 1, 1947, *was passed by the New York legislature and signed by the governor in March.*

* * * *

Bauer Bros. Co., Springfield, Ohio, has announced the election of Col. Joseph C. Shouvlin as president to succeed Charles L. Bauer who recently retired after 42 years with the firm.

LEO MURPHY 25 YEARS WITH ALLIED MILLS

Leo T. Murphy, vice-president in charge of Allied Mills, Inc., plant operations, was recently presented with the company's 25-year service award pin.

He has been in charge of the Company's Nebraska properties since 1930. These properties consist of a soybean plant, feed plant, and alfalfa plant at Omaha, and dehydrating and sun-cured alfalfa plants at Cozard and Elm Creek.

Mr. Murphy is director of the Livestock National Bank, Omaha, and last year was president of the American Dehydrators' Association, and is now director of that Association.

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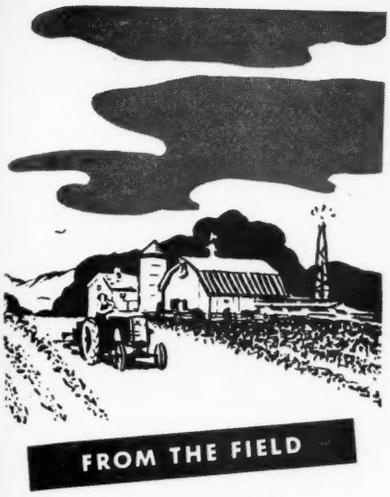

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San Francisco • Seattle • Wichita • Wilmington, Cal.

Stanley S. Amdurer, recently discharged from the U. S. Army after 3 years' service as an expert on the Far East, plans to establish a permanent office at Shanghai, China, buying and selling for the account of U. S. firms interested in that area. Mr. Amdurer's present address is 180 Broadway, New York 7, N. Y.

* * * *

Harold B. Bowen has been appointed oil and meal sales representative for 11 Midwestern states by Spencer Kellogg & Sons, Inc. Mr. Bowen, who has been associated with Russell-Miller Milling Co., in Buffalo, will direct soybean oil meal and linseed oil meal sales in the territory covered by the company's offices at Decatur, Ill.

* * * *

Diesch & Co., a new Waterloo, Iowa, firm, plans during the 1946-47 *season to handle soybean straw for resale to paper mills.*

* * * *

H. B. Parker has been appointed sales and traffic manager for the new Swift & Co. soybean mill at Frankfort, Ind., where processing operations are expected to begin in a few months. Mr. Parker has been with Swift's since 1936.

* * * *

Ralph G. Golseth has been named assistant vice president of the Glidden Co., with offices at 5165 W. Moffat St., Chicago, Vice President P. E. Sprague at the headquarters office in Cleveland announces. Mr. Golseth will represent the executive department with respect to the affairs of the soya products and feed mills divisions.

* * * *

Firms planning installation of solvent extraction equipment include: Helena Cotton Oil Co., Helena, Ark.; Osceola Products Co., Osceola, Ark.; and Wilson Soybean Mill, Wilson, Ark.

* * * *

A patented vegetable oil refining process is being used illegally by A. E. Staley Mfg. Co., Paul D. Boone, Washington, D. C., attorney, charges in a suit filed with the federal court at Springfield, Ill. Mr. Boone claims Staleys are using a process he patented in June, 1944.

* * * *

Leather safety belts should be treated with neatsfoot, castor, soybean or a compound oil, not a mineral oil, recommends NATIONAL SAFETY NEWS.

* * * *

Charging that barter and black market operators are now in control of practically all feed commodities, the board of directors of Western Grain & Feed Association, Des Moines, urges the abolition of government price and distribution regulations and return to a free economy as the way to correct the present situation.

* * * *

Ralston Purina Co., St. Louis, has announced the purchase of 170 acres of land adjoining the Purina research farm at Gray Summit, Mo. The purchase increases the farm's acreage to 713 acres.

* * * *

Federal Bureau of Internal Revenue has begun a drive to collect taxes from retailers in 46 states who had handled the soya butter produced by Butler Food Products, Cedar Lake, Mich. Butler has appealed a recent Federal District Court ruling that soya butter is colored margarine and therefore subject to tax.

GOVERNMENT BLAMED FOR FEED SHORTAGE

The present critical feed shortage is almost solely the result of government policy, according to Ralph M. Field, executive secretary of the American Feed Manufacturers Association, Chicago.

Field so charged at the annual Rocky Mountain Feed Dealers nutrition conference at Fort Collins, Colo., March 22. He declared "apparently the administration is trying to saddle the feed industry with the responsibility of limiting livestock and poultry numbers by reducing the feed supply."

"Typewriters, used and new automobiles, apartment leases, and even nylon hose are entering into trading for grain in the middlewest farm belt," he said.

"Never in history has there been such a situation." Field explained. "In the grain growing country everything is traded—soybean oil meal for corn, corn for wheat, wheat for soybean oil meal, according to who has and who hasn't."

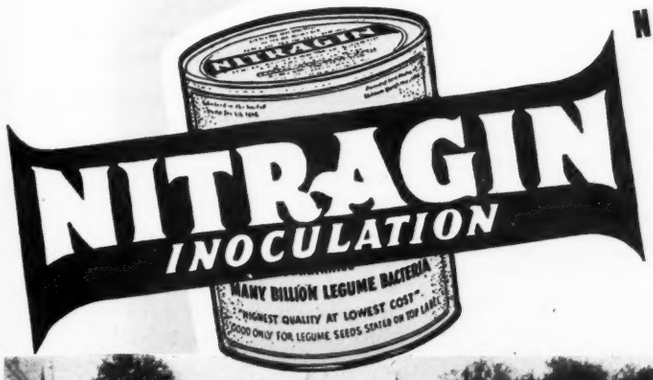
—sbd—

TISCHER REPRESENTS SEEDBURO IN IOWA

Seedburo Equipment Co., Chicago, announces the addition of A. V. Tischer as its sales representative in Iowa.

Mr. Tischer comes to Seedburo with years of previous experience in the grain business. After a considerable period in responsible positions with the Chicago, Great Western Railway, the Chicago Board of Trade and the U. S. Department of Agriculture, he organized the inspection and weighing departments for the Des Moines Board of Trade and held the position of chief inspector and weighmaster until he became associated with Seedburo.

HOW TO BOOST SOYBEAN YIELDS



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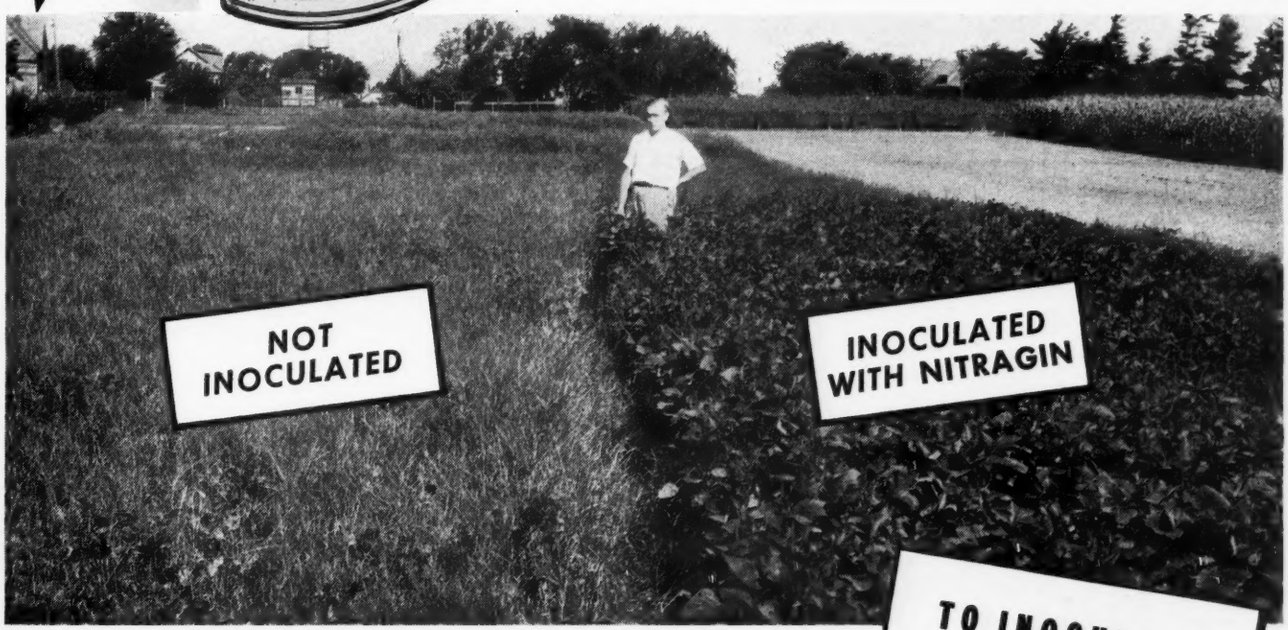

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WASHINGTON Digest

By PORTER M. HEDGE
Washington Correspondent for The Soybean Digest

To Raise Bean Prices Price ceilings on soybean, cottonseed, peanut and linseed oil meals have been raised $14 a ton in a general upward adjustment of all feed prices to narrow the livestock-feed price ratios and conserve grain for famine relief.

The question still unanswered at press time was whether the price support on soybeans would be raised to correspond with the 25-cent a bushel boost in corn price.

But an increase in the price support of 1946 crop soybeans was being considered by Production and Marketing Administration as the *Digest* went to press.

The purpose was to put soybeans in a better competitive position for acreage this year in view of the recent increases in grain and feed prices and the worldwide shortage of fats and oils.

No decision on a price increase had been reached at press time. Some officials think price support should be two and one-half times the price of corn to give soybeans equal price footing with corn in Cornbelt states.

Majority opinion was, however, that if any price increase is approved it more likely will be boosted up to $2.60 or $2.65 a bushel to keep subsidy payments down.

The prevailing view was that even with a large boost in price support the decision to raise the price was coming too late to have much effect on increasing the much-needed soybean acreage.

Crisis in Fats, Oils The famine emergency committee headed by Chester Davis is beginning to focus the famine spotlight on the need for more fats and oils, particularly in fat-starved Europe.

What the Administration specifically intends to do about it isn't yet certain, but it's taken for granted in most quarters that stricter fats and oils controls are likely to come by fall.

A number of measures have been under discussion, both in the Department of Agriculture and in the famine emergency committee. So far, none of the measures outlined below have the official blessing, but they give an indication of current thinking.

1. Since lard deliveries for export have been lagging, it has been suggested that a stricter meat trimming order be adopted. It's generally assumed that this would involve either offering packers meat prices for animal fat, or setting up a differential pricing system under which lean cuts would draw a premium.

2. Setting aside a larger proportion of fat cuts for export also has been suggested, but is objected to on grounds that it would cut into supplies for the South, which is a heavy user.

3. A third proposal is to increase the export allocation of margarine, shortening, and edible oils. This would involve prohibiting further purchase of edible tallow and oleo oil for use in soap (about 36 million tons were so used last year); allocating about a third of the coconut oil supply now coming in for manufacture into margarine, shortening and oils for export; and changing WFO 43 so as to permit the use of coconut, babassu and palm oil in food products.

Still a fourth possibility (not now given serious consideration) is to reinstate consumer rationing of fats and oils and make a further cut in domestic consumption. The Administration hopes, however, to avoid consumer rationing, figuring it can achieve virtually the same effect by "rationing at the source" through quotas, set-asides, and government-directed distribution into the tightest shortage areas.

Here is the latest estimate of the 1946 world fats and oils situation:

World import needs are estimated at 10 billion pounds. World export supplies are placed at 5.6 billion pounds—a deterioration in the supply of about 400 million pounds since January due to failure of the flax and peanut crops in India, plus Argentine consumption as fuel of a good portion of its exportable surplus of flaxseed.

This would leave a world deficit of 4.4 billion pounds of fats and oils, based on present estimates.

The latest figures on consumption estimates, based on tentative allocation: For Europe, excluding Russia, about 50 percent below prewar, when the increase in population is counted; for the United King-

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dom, 20 percent under prewar; for the United States, about 12 percent below prewar.

U. S. civilian food fat consumption this year is put at about 8.5 percent below prewar, and non-food fat consumption at about 9.6 percent below prewar.

The present export allocation of fats and oils from the U. S. is about 900 million pounds, and this is tentative compared with 1.1 billion pounds last year and 1.6 billion for the two previous years. Prewar U. S. exports ran to around 400 million pounds.

The only hope for real relief lies in the Far East, which prewar exported better than three billion pounds annually.

Estimates of copra imports from the Philippines this year run from less than 200,000 tons to a possible 250,000 tons. The April estimate of copra in-shipments is 30,000 tons.

The import target for the year is 225,000 tons, about two-thirds of which is scheduled for the U. S. and the remainder for other countries.

Some experts familiar with the Far East think they will do well to get 200,000 long tons in terms of oil out of the former Japanese-occupied area this year. Main drag on shipments out of this area is lack of equipment and transportation, inflation, lack of incentive trade goods, general war dislocations and political unrest.

A major operator in the fats and oils trade forcas's export supplies will increase at about this rate: 1946, 4.5 *billion pounds* (*lower than government estimates*); 1947, 6.7 *billion;* 1948, 8.7 *billion; and* 1949, 8.8 *billion. Net exports prewar, including butter, averaged* 9.6 *billion pounds.*

Officials point out that the world fats and oils situation could change almost overnight from a shortage to a surplus problem, but only with restoration of the industry in the Far East. This isn't expected for at least another year.

In terms of domestic soybean production, the world situation puts a premium on soybean acreage this year. It spells the need for at least another year of high soybean production before acreage can settle back into a more nearly normal pattern. It indicates that the pressure on prices will be strong throughout the 1946-crop marketing year.

Trade in Coconuts The Philippines trade bill (HR 5856) recently passed by Congress and signed by the President will go into effect when it is approved by the Philippine Congress and the necessary legislation is enacted to make it operative.

The bill provides for an unprecedented preferential trade agreement with the Philippines for 28 years. For the first 8 years the Philippines will have the advantage of free trade.

Beginning in 1954, the tariff on Philippine trade goods will be 5 percent, and will be raised 5 per cent each following year until it reaches the full amount by 1973.

An absolute import quota of not more than 200,000 long tons of coconut oil in any one year is established for the duration of the agreement. For the first 8 years this amount will be let through the U. S. tariff gates duty free, as it has been in the past.

Beginning in 1954 the duty-free quota is lowered to 190,000 long tons, and reduced by 10,000 tons a year thereafter until there is none duty free by 1974.

After 1953, all coconut oil imports in excess of the duty-free quota will be subject to the full amount of the tariff. The 3-cent excise tax on Philippine oil is retained, though the tax may be suspended under certain low-supply conditions in this country.

The State Department opposed the absolute quota arrangement, asking instead for a "tariff quota" which would allow imports of more than 200,000 long tons a year by payment of the tariff on over-quota tonnage, the past arrangement.

Changes In USDA Walter Berger, feed specialist for Production & Marketing Administration's grain branch, has submitted his resignation and has returned to private business. He will return to the Des Moines (Iowa) Oats Products Co., which he heads.

KALO INOCULATION

You Can SAVE as Much as $10 per Acre

by inoculating your Soybean Seed every year. Uninoculated Soybeans may produce a good crop on good land, but they'll take the valuable nitrogen from the soil, at a cost to you of at least $10 per acre per crop. Take this nitrogen from the air and you'll actually save this $10.

KALO INOCULATION Is Tops in Quality . . . Low in Cost

Kalo Inoculants contain superior strains of bacteria . . . carefully selected for their nitrogen-fixing ability. They've been proven in over 500 competitive tests . . . yet the price is low. You can save and profit with KALO INOCULATION.

UNI-CULTURE

3 Cultures in 1 Can for all clovers, alfalfa and soybeans.

KALO INOCULANT CO.

QUINCY ILLINOIS

No successor to Berger has yet been picked.

Don Payne, soya food expert for the Department of Agriculture and later for UNRRA, is reported leaving the international relief agency.

W. H. Jasspon, who earlier had planned to leave as head of PMA's fats and oils branch, has agreed to stay on during the world famine emergency.

Jasspon is still in Argentina attempting to negotiate for larger flaxseed supplies. O. W. Herrmann, assistant director of the fats and oils branch, is running the unit in Jasspon's absence.

Dean McNeal of the Ralston-Purina Co., St. Louis, is now in Washington as an assistant to Stabilization Director Chester Bowles on leave from Purina. McNeal was a former OPA agriculture consultant.

Plenty of Seed

The official report of soybean stocks on farms indicates a plentiful supply for seed purposes with the possible exception of a few Southern states where stocks are low.

USDA estimates about 17 million bushels will be needed for seed this year. April 1 stocks were 29¾ million bushels, compared with 27½ million last year, and 40 million in 1944. Eighty percent of farm stocks were in Illinois, Iowa, Indiana and Ohio.

Officials report that delivery of soy flour for export has been dragging, with only about half of the 100 million pounds promised for UNRRA procured by late April.

—sbd—

CATTLE FEED FROM PAPER PULP WASTE

More than 150 million pounds of high-grade yeast and cattle fodder could be obtained by recovering waste liquors now discharged annually into streams by pulp and paper mills, according to Dr. Robert S. Aries, field director of the Northwestern Wood Utilization Council.

Dr. Aries, speaking before the meeting of the American Chemical Society at Atlantic City, N. J., predicted this development might revolutionize the industry and agriculture of the northeastern U. S. "New England may become a competitive beef-producing area, using this high-protein yeast cattle fodder."

Dr. Aries considered yeast produced from pulp waste a much better source of protein than the principle grain crops. He pointed out that yeast contains all the essential amino acids for human or animal nutrition.

—sbd—

Among silage combinations tried at the University of Illinois, soybeans grown with sorghum and soybeans planted with Sudan grass gave good results.

Market Street

We invite the readers of THE SOYBEAN DIGEST to use "MARKET STREET" for their classified advertising. If you have processing machinery, laboratory equipment, soybean seed, or other items of interest to the industry, advertise them here.

Rate: 5c per word per issue.
Minimum insertion $1.00.

FOR SALE — 1,600 bushels certified Lincoln soybeans. Tested Feb. 26, 1946. Purity 99.7%. Germination 93%. Price $3.50 per bu. at warehouse. Charles Ackerman, Jr., Mechanicsburg, Ohio.

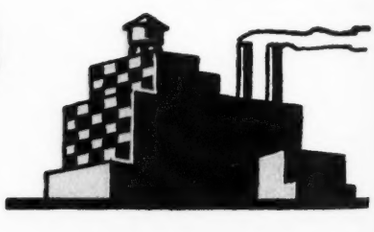
CERTIFIED LINCOLN soybean seed, also Earlyana for sale. Special price in truck or carload lots. Bert L. Benskin, Laurel, Iowa.

BRITISH SOYA Flour manufacturer visiting America during May/June would like to contact manufacturers of proprietary soya foods with a view to making similar products in U. K. on royalty basis. United States manufacturers are invited in the meantime to send samples and particulars to Frank Brobst, 57 Jefferson Boulevard, Riverside, Ontario.

You know what these are!

They're beans from the plant the Chinese call "little honorable plant." Sure, the rich, tremendously valuable and important Soybean!

BUT *what is this?*



It's the new Purina Mills Soybean processing plant at Kansas City — the 5th in the chain of Purina plants spotted around the soy belt at St. Louis, Missouri; Circleville, Ohio; Lafayette, Indiana; Iowa Falls, Iowa; and, now, Kansas City, Missouri. Five stragetically located cash markets for soybean farmers.

AND THIS?

That's easy. Of course, it's that famous Purina Checkerboard bag—symbol of Purina's feed-making reputation built in a half century in the business.

Soybean growers know when they feed their livestock or poultry good Purina Chows they're using a feed that uses the product they raise. They know, too, that the feed in the Checkerboard bag is always top quality.

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"OVER 500 MILLION DOLLARS WORTH OF PRODUCTS ANALYZED SINCE 1935"

SOYBEANS--
then don't forget this

No question about it — seed inoculation is the most effective crop insurance that a soybean grower can give himself. Take no chances when buying inoculant. Insist on getting the brand that has helped to grow bumper soybean crops for thousands of farmers year after year.

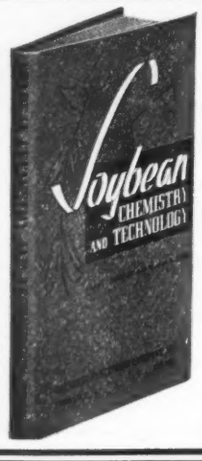
LEGUME-AID

The strains of bacteria in this famous inoculant are field selected, laboratory checked and crop tested. The scientifically devised inner-lined carton package protects their potency. The LEGUME-AID unit for soybeans contains exactly enough to inoculate five bushels of seed. Order what you need. Open each package fresh as you treat each batch of seed. No waste, no loss, no troublesome measuring. Tell your dealer you want LEGUME-AID.

AGRI-LAB-INC

AGRICULTURAL LABORATORIES, Inc.
1239 Chesapeake Avenue — COLUMBUS 2, OHIO

The INOCULANT in the CARTON



Soybean Chemistry and Technology . . .

by KLARE S. MARKLEY

Principal Chemist, Southern Regional Research Laboratory; Formerly Senior Chemist, U. S. Regional Soybean Industrial Products Laboratory

and WARREN H. GOSS

Senior Chemical Engineer, Northern Regional Research Laboratory; Formerly Senior Chemical Engineer, U. S. Regional Soybean Industrial Products Laboratory.

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EASY TO USE. Just spread a thin coating with a paddle or knife, press pieces firmly together and allow to dry. They will not peel or tear.

WATERPROOF. Tehr-Greeze will not loosen even when washed. Available in conveniently sized containers. Write for trade prices.

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SOYBEAN and COTTONSEED

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In The MARKETS

● SOYBEAN STOCKS: Stocks of soybeans remaining on farms April 1 amounted to 29¾ million bushels, 8 percent above the 27½ million bushels on farms a year earlier, reports the USDA crop reporting board. However, current stocks are well below the 40 million bushels on farms April 1, 1944, and the 54 million bushels on April 1, 1943, tho first comparable period for which data are available.

The 1945 crop moved to market rapidly after harvestnig, although in some areas the completion of harvest was delayed considerably by unfavorable fall and winter weather. Except for seed and some quantities for food, there was little incentive for farmers to hold soybeans on farms because of government price regulations. Disappearance of soybeans from farms during the first quarter of 1946 totaled about 13½ million bushels, about 1 million bushels less than disappearance during the same quarter last year.

Approximately 17 million bushels of seed will be needed to plant the 1946 prospective acreage of soybeans for all purposes. Based on current farm stocks, seed supplies should be plentiful except possibly in a few Southern states where farm stocks are generally low. This may necessitate larger than usual amounts of seed being purchased in these areas, if the prospective 1946 acreage is finally planted.

About 24 million bushels or 80 percent of the current farm stocks are in the four heavy producing states of Illinois, Iowa, Indiana and Ohio. Stocks in these states are almost 3 million bushels above the same period last year, with most of the increase in Illinois, where over 11 million bushels remain on farms, compared with 8¾ million bushels on April 1, 1945.

SOYBEAN STOCKS ON FARMS APRIL 1

State	Soybeans	
	1945	1946
New York	71	14
New Jersey	87	65
Pennsylvania	148	84
Ohio	3,705	3,613
Indiana	4,274	4,747
Illinois	8,744	11,115
Michigan	399	410
Wisconsin	368	95
Minnesota	781	1,024
Iowa	4,646	4,530
Missouri	1,273	1,139
North Dakota	14	16
South Dakota	34	21
Nebraska	48	33
Kansas	431	274
Delaware	178	134
Maryland	155	178
Virginia	236	299
West Virginia	6	6
North Carolina	617	810
South Carolina	27	25
Georgia	31	27
Kentucky	195	188
Tennessee	146	164
Alabama	75	63
Mississippi	276	192
Arkansas	506	435
Louisiana	87	78
Oklahoma	12	6
Texas	1	
United States	27,571	29,785

Bureau of Agricultural Economics reports soybean stocks in all positions April 1 to be 98 million bushels compared with 109.5 million a year ago.

The breakdown in round figures: Farms, 30 millions; interior mills, warehouse elevators, etc., 18 millions; processing plants, 37 millions, and terminals, 12.5 millions.

● INSPECTIONS. Inspected receipts of soybeans in March were somewhat lower than for the preceding month and slightly below the five-year average, according to inspectors' reports to the Grain Branch of the Production and Marketing Administration.

March inspections totaled 4,644 cars compared with 5,219 cars in February. The five-year average for the month of March for the crop years 1940-44 was 4,713 cars. Inspected receipts for October-March this season were 71,751 cars compared with 62,000

cars for the same period last season.

The quality of soybeans inspected in March continued good, 94 percent grading No. 2 or better compared with 91 percent in February.

March inspections included the equivalent of 62 cars inspected as cargo lots and truck receipts equivalent to about 28 cars.

● COMMERCIAL SOYBEAN STOCKS. Production and Marketing Administration's commercial grain stock report.

U. S. Soybeans in Stock and Afloat at Domestic Markets (1,000 Bu.)

	April 9	April 16	April 23	April 30
Atlantic Coast	117	117	117	117
Gulf Coast	3	63	63	63
Northwestern and Upper Lake	1,367	1,345	1,327	1,294
Lower Lake	5,333	4,864	4,363	3,818
East Central	3,534	3,464	3,336	3,071
West Central Southwestern & Western	1,517	1,351	1,186	1,072
Total current week	11,871	11,204	10,392	9,435
Total year ago	15,930	14,823	14,601	13,101

● STANDARD SHORTENING SHIPMENTS. By members of Institute of Shortening Mfgrs., in pounds.

April 6	6,478,772
April 13	8,087,467
April 20	7,880,233
April 27	7,475,144

● ANALYSIS OF SOYBEAN PRODUCTS. A summary of soybean samples analyzed by Woodson-Tenent Laboratories during March.

Average Chemical Analysis of Soybeans Grown in Tennessee, Arkansas, Mississippi, Missouri.

	Oil (Oil calculated to 14% moisture) %	Oil Yields per bushel* lbs.
Grand average	18.5	8.6
Month's highest	19.6	9.3
Month's lowest	17.5	7.7

Government Orders

● WAR FOOD ORDER 29 REVISED. The Department of Agriculture has announced a revision of WFO 29 (use and distribution of cottonseed, peanut, soybean and corn oil) embodying all of the amendments and revisions since November 12, 1943, and making new provisions for the use of these oils by industrial (inedible) users. Provisions affecting the edible uses of the four vegetable oils remain unchanged.

Under the revised order industrial users of these oils may not use in any calendar month more than one-ninth of the quantity used during the first 9 months of 1945. Formerly, natural limitations on the rate of use as well as government priorities and other limitation orders served adequately to control the industrial use of oils. Now many of these restrictions are not operative and the resulting trend toward greatly increased rates of use makes necessary the establishment of these controls. The revision also limits inventories of industrial users to a 45-day supply.

The revised order does not continue the distinction between "prohibited" and other industrial uses, but makes the same provisions applicable to all industrial uses. Use of soybean oil in synthetic resins, which formerly was limited to one-sixth of the quantity used during the first 6 months of 1945 and required the user's certification, from now on will be handled no differently from other industrial uses.

Under the provisions of the revised order for industrial users' quotas, any manufacturer who has not established a base period use either under WFO 29, or the reporting requirements of WFO 42, may do so by setting forth in writing his actual consumption figures for each specific industrial purpose during the first 9 months of 1945.

Restrictions on industrial use of oils apply to crude, refined or otherwise processed oils, including fatty acids and mixtures but not including tank bottoms or foots.

Suppliers will continue to request authorizations to make

How to Use Spergon with Legume Inoculants On Soy Bean Seed

Repeated tests have indicated the high value of Spergon in preventing seed decay and increasing emergence, especially in a cold wet planting season.

Tests also show that Spergon is compatible with legume inoculants and that you may obtain double benefits by treating seed with Spergon and with bacterial cultures. Here's how it's done:

1. First treat seed with Spergon. The recommended rate is two ounces per bushel. Your state experiment station will advise dosages to meet special local conditions.
2. Inoculate only with strong cultures containing viable bacteria and apply excess amounts over that recommended for untreated seed.
3. Use just enough water to make culture cling to seed.
4. Plant within two hours after inoculating.

Write us for further information about the use of Spergon to increase soy bean stands and yield, and for copy of Soybean bulletin.

Advantages of Spergon

- Protects seed against decay caused by soil-borne and seed-surface fungi.
- Safe to use. Non-irritating and non-injurious to the operator when applying it to seed.
- Long lasting. Spergon does not deteriorate with age. May be applied months in advance of planting.
- Self-lubricating. No graphite needed in planter.

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SEED PROTECTANT

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If you want abundant yields of high grade Soybeans, treat your fields with this high grade, finely ground, quick acting, natural rock phosphate. It's the cheapest and longest lasting source of phosphorous to replace the quantities of this vital plant food which Soybeans take from the soil.

SUGGESTION. Order **NOW** for delivery soon as possible. Demand is heavy.

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MT. PLEASANT **TENNESSEE**

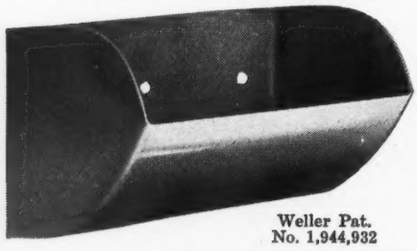
WE'D BE BACK-LEGGING INTO... SPACE-IF THE WORLD WASN'T CURVED

It's the curve, too . . . a **Logarithmic Curve** . . . that plays a vitally important part in the design of the

CALUMET SUPER CAPACITY ELEVATOR CUP

Yes, it's the Logarithmic Curve that keeps the super capacity loads the Calumet Cup scoops up in the elevator boot securely put . . . **hugging** the cup all the way up over the head pulley where entire contents is released with a clean, complete discharge.

Make the test that has sold scores of elevator operators on the Calumet Cup. Equip one of your elevator legs with the Calumet. Compare results with those secured from old style buckets. You're bound to be convinced that the Logarithmic Curve makes a **world** of difference in efficiency and economy of operation . . . that it is the **Curve That Counts.**



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Form 35 tells how much greater guaranteed capacity you can obtain from your elevator legs. It's yours for the asking.

B. I. WELLER CO.
327 S. La Salle Street **Chicago 4, Illinois**

deliveries to industrial users by application to Fats and Oils Branch, Production and Marketing Administration, U. S. Department of Agriculture, Washington 25, D. C.

● WFO-9 APPLIED TO 1946 SOYBEAN CROP. The United States Department of Agriculture has announced application of WFO-9, Amendment 7 to the 1946 soybean crop. This, in effect, extends the regulation now in effect to the forthcoming crop.

Under the amended order no soybean processor or seed dealer shall purchase or accept delivery of 1946-crop soybeans in any quantity which will cause his inventory to exceed his manufacturing, processing or seed sales requirements for the period ending October 10, 1947.

A country shipper may not purchase or accept delivery of soybeans in any quantity "which will cause his inventory to exceed his delivery requirements under existing contracts with processors, soybean products manufacturers, seed dealers, and the Commodity Credit Corporation," plus either 2,000 bushels or the quantity of soybeans purchased during the 30 days immediately preceding.

No person other than a processor, soybean products manufacturer, seed dealer, or country shipper "shall purchase or accept delivery of soybeans in any quantity which will cause his inventory to exceed his delivery requirements under existing contracts with processors, soybean products manufacturers, seed dealers, and the Commodity Credit Corporation, plus his planting requirements, plus his requirements for sales for human consumption."

The order further provides that no person may use soybeans in whole or ground form in the manufacture of feed or fertilizer, nor use edible soya products in the manufacture of feed.

● MAY PROTEIN SET-ASIDE. The U. S. Department of Agriculture has announced that processors will be required to set aside 10 percent of their May production of soybean, cottonseed, linseed, and peanut meal. This is the same amount as the April set-aside.

The quantity ordered set aside beginning January 21, when the set-aside order was reinstated, was 5 percent through March 31.

Processors are being instructed to ship the set-aside meal for use in designated states which are short of their equitable share of supplies of protein meal.

Shipments to date have been directed to 36 states. These are Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New Jersey, Pennsylvania, Kentucky, Michigan, Missouri, Wisconsin, Maryland, Virginia, West Virginia, North Carolina, Tennessee, Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, Oklahoma, South Carolina, Texas, California, Colorado, Idaho, Kansas, Nevada, New Mexico, Oregon, Utah, Washington and Wyoming.

Shipments directed from January 21 through April 30 total 91,000 tons. The meal is being sold by the processors through regular trade channels in the designated states.

● SUSPENSION OF RESTRICTIONS CONTINUED. The U. S. Department of Agriculture has continued through June 30, 1946, the suspension of restrictions on deliveries of crude cottonseed, peanut, soybean and corn oils to refiners for refining purposes, under War Food Order 29. Previously, the suspension had been continued through March 31, 1946.

Authorizations for delivery of these four crude oils to all other users, however, will continue to be obtained from the Fats and Oils Branch of the Production and Marketing Administration.

This is a continuation of the suspension which has been in effect since September 1943.